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January 1994
Volume 47 Number 1

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Published Monthly by the South Dakota State Medical Association

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John W. Herbst

South Dakota Foundation for Medical Care

Discharge Planning

Discharge planning is an important factor in providing continuity of care. All patients should have a discharge plan, though the scope of the plan varies considerably according to patient needs.

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Physicians must interface their patients' discharge care plans with other physicians and/or facilities who share in the patient's care both during and after the hospital stay. The discharging physician orders and summary should include such patient needs as activity, medications, diet, disposition, and follow-up care.

Documenting the discharge plan can significantly reduce oversights and misunderstandings. The hospital should contact the patient's physician when a potential inconsistency in care plan is noted or left unaddressed as it may have been inadvertently overlooked.

Hospitals should review their own guidelines if that has not been done recently, and together with the medical staffs assure discharge planning efforts are effective in providing continuity of care for all patients in their facility.

Gerald E. Tracy, MD
Medical Director

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Bison bull lying under a tree in a snow storm, photographed by John W. Herbst, Grizzly Bear Nature Photography, Keystone, SD.

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The primary purpose of the South Dakota Medical School Endowment Association is to provide low interest (6%) loans to medical students who are attending the University of South Dakota School of Medicine. In the past few years we have increased available loan money from \$35,000 to \$70,000 for 1992-93. Student needs are increasing each year, reflected by the increase in the number of loans from 35 to nearly 60. More contributions are needed to ensure continued growth in our loan assistance.

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"Beaver Pond at First Snowfall", photographed by Douglas M. Traub, MD, who practices internal medicine in Rapid City.

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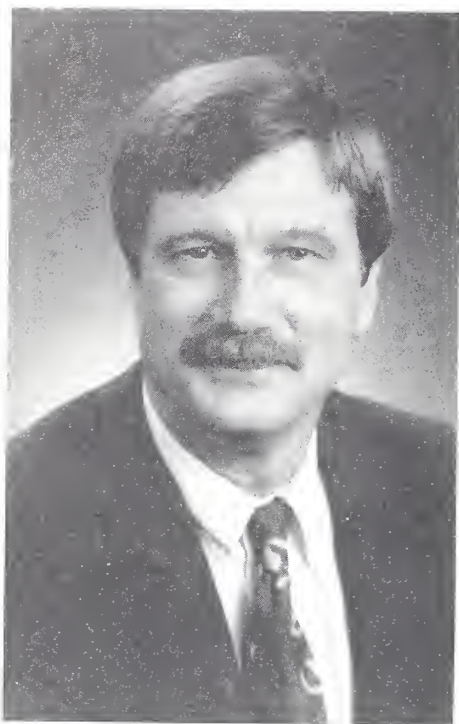
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"Rocky Mountain Bull in Velvet". Elk begin to regrow their antlers each spring in their "velvet" growth phase. Photographer John W. Herbst, Grizzly Bear Nature Photography, Keystone, SD.



Thomas L. Krafska, MD, President
South Dakota State Medical Association

The 113th annual meeting of the South Dakota State Medical Association will be held at the Rapid City Rushmore Plaza Holiday Inn, June 9, 10, and 11. The major topic will be the changes in financing and delivery of health care with emphasis on what is happening, not what might happen. Dr Don Schroeder, President of the Oregon Medical Association and a native of Bridgewater, SD, will address the First House of Delegates meeting about the Oregon experience. Mr Ray Pace, a managed care consultant, will be part of the scientific session with information on networking, capitation, contracts, etc. The scientific session will be rounded out by sessions on new technology and women's health issues.

Change in the way health care is financed is inevitable although slower to reach South Dakota than other areas. These financial changes will lead to changes in the structure of delivery systems and, although these changes may be slow in coming, they are, unfortunately, also inevitable. Business groups, governmental agencies and insurance companies will benefit from having providers and provider groups separated, suspicious and uneducated. There is an obvious reluctance of business and government to in-

clude physician representation on planning committees, commissions, etc, and too little involvement by physicians on such groups. I can't over-emphasize how important it is that our membership be involved at all levels of planning and development of any structure to deliver or finance health care. It's also important for those involved to be knowledgeable and unified in their philosophy. If there has ever been a time to put aside regional, specialty and philosophic differences for the overall good of the people of South Dakota, this is it! The annual meeting is our opportunity for the membership to be involved in developing and disseminating a unified philosophy that will allow us to negotiate effectively with outside forces that want to control health care delivery.

Those of you who watched the legislature this year know our attempts at liability reform were unsuccessful. If we want to succeed next year we need to establish an agenda early (by the annual meeting) and have the membership involved in making the political contacts necessary to get this controversial legislation passed. The annual meeting is the obvious place to begin a "grass roots" political movement.

Attendance is also important to learn more about your organizations and meet the people who are responsible for them. SDSMA, DakotaCare, Blue Shield, the PRO and the Board of Medical Examiners all may have a more significant role in your future than they have in the past. Bring your questions and gripes to the place where they can be addressed.

Putting all the serious reasons aside, come to the meeting for any number of other reasons, i.e. sightsee in the Hills, play golf, climb Harney Peak, hike the Centennial Trail, or just spend time with colleagues and friends you don't see often.

That's June 9, 10, and 11 in Rapid City. Hope to see you then!

Thomas L. Krafska MD

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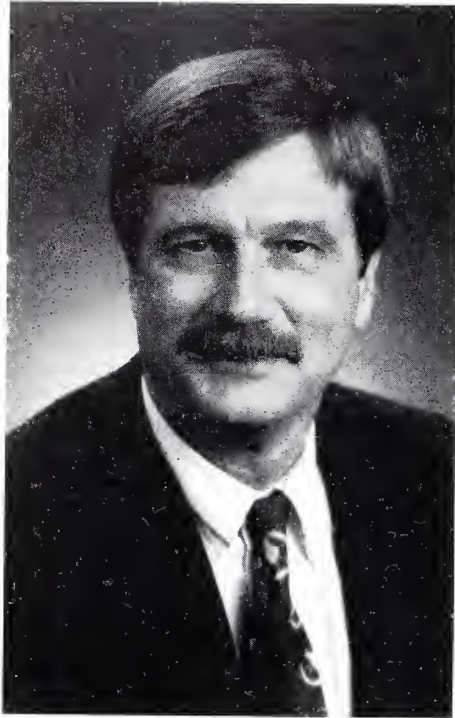
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"The upcoming annual meeting of the South Dakota State Medical Association, June 9-11, 1994, will be held at the Rushmore Plaza Holiday Inn and Civic Center, Rapid City, SD."



**Thomas L. Krafka, MD, President
South Dakota State Medical Association**

Here I am writing my last president's page! I know I'm supposed to be relieved, but I'm amazed that the time has gone so quickly. Because the time passed so quickly, less was accomplished this year than I had expected. I had anticipated that Health System Reform, both on a national and a state level, would be far enough along that we would be busy responding to, modifying and learning to work with it in some type of framework. It may be an example of "no news is good news", but I worry that the longer change is delayed the more catastrophic it may be when it happens.

The growing list of challenges we face includes:

1. Learning to use telemedicine for the benefit of the patient and physician and not just as a gimmick.
2. Learning to relate with non-physician providers to maintain quality and comply with public and government demands.
3. Learning to work together with our physician colleagues to squeeze quality from a managed care system.

4. Developing a strategy and carrying it through to pass "tort reform" in the 1995 legislative session.
5. Finding a way to continue independent practice in an environment that promotes organizations.
6. Resisting being divided into small completing groups by specialty or hospital affiliation.

Jim, I wish more had been accomplished during this year, but the list continued to grow. You certainly shouldn't be bored and next year at this time you will be amazed that it's over so quickly. I trust you will have been as enriched by the experience as I have been.

Thanks to all of you for the privilege of holding this office.

Thomas L Krafka MD

REMEMBER THE SDSMA ANNUAL MEETING JUNE 9-11, IN RAPID CITY

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Photographed by South Dakota photographer, Joel Strasser, from his book "Where My Heart Is".

About Our New President

I was born in Sioux Falls, and I lived in South Dakota until leaving the state in 1967 to complete my medical school education at Johns Hopkins University in Baltimore, Maryland. As a son of a road contractor, my summers were spent in rural South Dakota on different construction projects. This rural experience has been a great asset to me upon returning to the state in 1975.

I attended Augustana College in Sioux Falls and subsequently the University of South Dakota for the first two years of medical school. After completing my medical school degree at Johns Hopkins University, I completed general and cardio-thoracic residency programs at Johns Hopkins Hospital. I was fortunate during this time to spend a six month fellowship in Bristol, England studying esophageal surgery. While in the Air Force Reserve during residency years, I completed my training as a flight surgeon.

I returned to Sioux Falls in 1975. Accreditation for the four year school of medicine had just been granted along with a Certificate of Need for Cardiac Services at

Sioux Valley Hospital. The heart surgery program was initiated in 1978 and has grown significantly throughout the years.

Debby and I were married in 1964 and we have five children. Branden, our oldest son is a surgical resident at the University of Washington, Seattle. Amy completed her undergraduate training at the University of Richmond, and Bethany is currently a sophomore at Augustana College. Somewhat later (13 years!) Timothy, now age 8, and Ann Marie, now age 6, blessed our home.

My interest in the medical association occurred early in my practice career. I have been involved with the State Medical Association at the district and state levels since that time. Hobby interests are numerous including; hunting, fishing, toy collecting, skiing and trying to keep up (again) with a 6 and 8 year old.

James R. Reynolds, MD, President
South Dakota State Medical Association

South Dakota Society Of Pathologists



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"Flowers in the Park" photographed by Charles Lewis, using a fog filter. This photo can be found in a recently published book by Charles Lewis and Dr Jerome Freeman called "Easing the Edges".

South Dakota Foundation for Medical Care

Initial Treatment of Pneumonia

In order to provide physicians and hospitals with a means for comparison South Dakota Foundation for Medical Care (SDFMC) will be performing a baseline data collection regarding the initial treatment of pneumonia for patients admitted to SD hospitals November 1993 to February 1994.



Study Elements*

CXR on Admit

Sputum Culture

Blood Cultures

Antibiotic Timing



It is anticipated that the results will be available in the Fall of 1994.

Interested physicians are invited to contact **Bruce Lushbough, M.D.**

*SDFMC would like to thank the following physicians for serving on the Pneumonia Study Group:

Bernard Linn, M.D.

Mitchel Rydberg, M.D.

Rodney Parry, M.D.

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"Wall Scape" photographed by Charles Lewis, Sioux Falls, SD.

On Presidents and Colleagues

This May I attended the national meeting of the American Academy of Neurology. The most interesting presentation was a joint session with James Toole, MD (a neurologist interested in history) and Arthur Link, Ph.D (professional historian). Together, they analyzed three United States presidents who were incapacitated while in office. Their thesis was that significant cognitive impairment can occur during a presidential term and that our country is ill prepared to reliably identify and react to such incapacity. They studied Woodrow Wilson, Franklin D. Roosevelt and Dwight D. Eisenhower.

Wilson had a major stroke in the last year of his presidency and apparently had significant residual deficits that impaired his cognitive functioning. It is presumed that his wife and staff conducted presidential business during the last months of his term. Roosevelt was very ill in the last months of his presidency, before his fatal hemorrhage. Some months prior to that event, a blood pressure in the range of 240/140 was obtained. Witnesses described him as apathetic and withdrawn in the time frame that included the Yalta conference with Churchill and Stalin. Authorities apparently questioned how actively and effectively he could have negotiated during this period of time. Eisenhower, had both a myocardial infarction and stroke. It is surmised that, at least for brief periods of time, he was incapacitated in terms of major decision making ability.

Certainly, an important challenge for our country is to structure a mechanism whereby a president, who is rendered incompetent, can be identified as such and effectively relieved of authority. Former President Jimmy Carter addressed this issue on a video tape prepared for the AAN Conference. He stressed that from his perspective, the United States lacks a truly effective means for identifying cognitive problems in presidents and a reliable procedure for responding to such impairment. Carter called on the physicians at this national meeting to address the challenge posed by this issue, and to work on proposals to improve the situation.

An analogy might be made between the issue of how our country should deal with an impaired president and how the medical profession should react to impairment in one of its physicians. Clearly, a profession such as medicine would seem to have a comparable and very serious obligation to identify incompetence in a member and to have procedures to suspend such an individual's authority/duties during a time of incapacitation. One possible paradigm example for such identification and action actually has been discussed by the South Dakota Medical Association's AIDS Task Force and by the South Dakota Department of Health. In proposed guidelines issued by the latter group last year, it was suggested that an HIV-infected healthcare worker should seek appropriate medical care and periodic evaluation of health status, including counseling on the advisability of continuing to work in the healthcare setting. In addition, it was suggested that a healthcare worker who does invasive procedures

should be evaluated by an expert review panel whose charge would include assessing whether the healthcare worker had any mental impairment that could interfere with the ability to perform medical procedures safely. Such a policy can serve as a general model for how a physician might be monitored for impaired competence.

However, safeguards and guidelines for the profession as a whole have not, to my knowledge, been explicitly delineated. Obviously, it can be very difficult to determine when a fellow physician's judgement or cognitive abilities are sufficiently errant to warrant suspension of professional activity. Impairment can, of course, come in a number of forms including dementia, drug or alcohol abuse, or emotional problems. Often-times it is especially difficult to accurately judge if subtle degrees of impairment are present. Most physicians quail at the prospect of being involved in such determinations and would prefer that such judgments be made by "somebody else" if possible. Certainly that would seem to be a normal type of emotional reaction to an area as difficult as this. However, one can make a strong argument that the medical profession does have a collective responsibility to carefully and systematically insure that all of its members are fully competent to perform their duties. As sweeping guidelines do not exist, presumably the bulk of the responsibility lies with individual physicians who come in contact with colleagues who may be potentially impaired.

In the future, we probably will all be under more public scrutiny in terms of the public records of our medical practices. As national practice data banks and similar records are generated, consistent deviation from appropriate norms of practice may be more objectively evident. Still, as physicians who assume a personal burden of responsibility for the good of our patients and society, it is important that we, as individuals, not feel absolved of the responsibility to try to insure that our colleagues are competent. To not feel this individual, as well as collective, obligation is to demean the significance of what it means to be a profession. Oscar Wilde is reputed to have said, "the truth is never pure and rarely simple." Such a statement could easily apply to physicians as we contemplate our duties to ourselves, our colleagues, and our patients. Consistently, we want to be gentle and fair with each other. If an individual physician is having difficulties which might impair cognitive performance, our intervention could help ameliorate and remediate the condition, as well as simply identifying it. Other times, of course, our intervention might lead to the cessation of a colleague's practice. Such a prospect can never be an easy one to contemplate or participate in. Yet, a willingness to serve in this capacity, if needed, is a vital professional responsibility. It is a disquieting challenge to who we are, and who we hope to be.

Jerome W. Freeman, MD
Editor

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"Autumn Leaves" photographed by Charles Lewis, using a fog filter. This photo can be found in a recently published book by Charles Lewis and Dr Jerome Freeman called "Easing the Edges".

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"Frost On Lone Prairie Tree" photographed by John W. Herbst, Grizzly Bear Nature Photography, Keystone, SD.

OSHA *UPDATE*

Eastern Clinic Gets Whacked By OSHA

Here are the fines:

Serious. The Exposure Control Plan did not include individual exposure determinations. \$1,875.00;

Serious. Access to handwashing facilities in two clinic areas was impeded. Fine \$1,500;

Serious. Contaminated work surfaces. In particular blood spills were not cleaned up as soon as feasible. \$1,875;

Serious. Annual training was not provided close to the annual date. \$1,875;

Serious. No hazard communication instructions were available to the employees. \$1,125;

Other Penalties:

OSHA Form 200 was not completed in detail. \$750.

This clinic was reported to OSHA by an employee and OSHA hammered them hard with unusually punitive fines.

The Big Failure was to not provide employee access to training programs and policies. This may have signaled to OSHA that a non-compliant attitude must be addressed.

Source:

Medical Environment OSHA Update

Fiscal 1993 OSHA Citation Totals

Two thousand violations of the bloodborne pathogen standard and 1,800 violations of the hazard communication standard were discovered. That comes to 3.8 violations per inspection or, roughly, \$2,900 in fines.

Source:

OSHA News, March 18, 1994

OSHA Raises "Willful" Minimum Fine to \$25,000

On June 14, 1994 OSHA told the *Occupational Safety & Health Reporter* that willful violations of federal OSHA standards will carry a \$25,000 minimum proposed fine versus the current \$5,000 fine. Only 0.7 percent of fines have been "willful", but this could grow if non-compliant businesses are inspected and no steps toward OSHA compliance are noted.

Source:

Occupational Safety & Health Reporter, June 15, 1994

MEDCHECK will aid and support your OSHA Coordinator with all paper work, medical recordkeeping, creating labels, implementing fire and safety inventories and training all the staff.

Upon publication, all OSHA Updates will be posted for you by MEDCHECK. MEDCHECK will support your facility at times of OSHA inspection and work with OSHA agencies.

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Inexpensive Insurance**

Barbara McLean, MT (ASCP)

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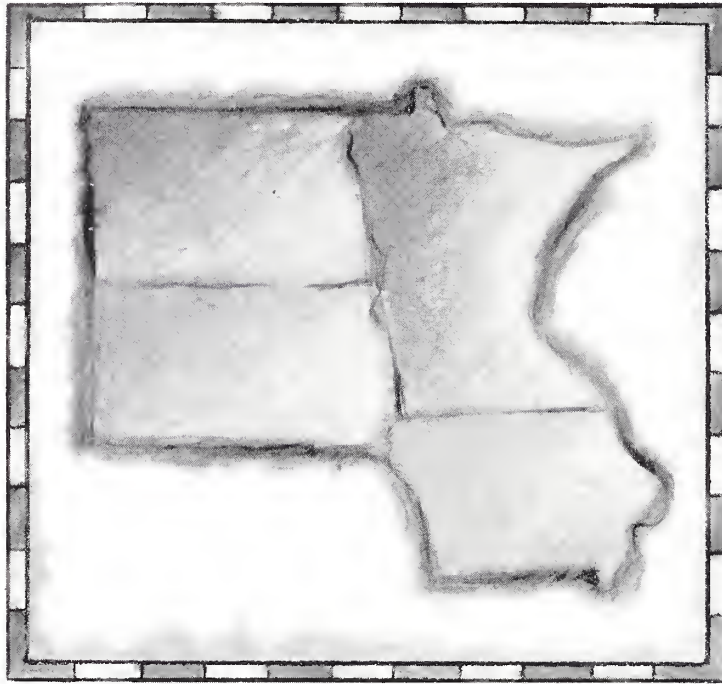
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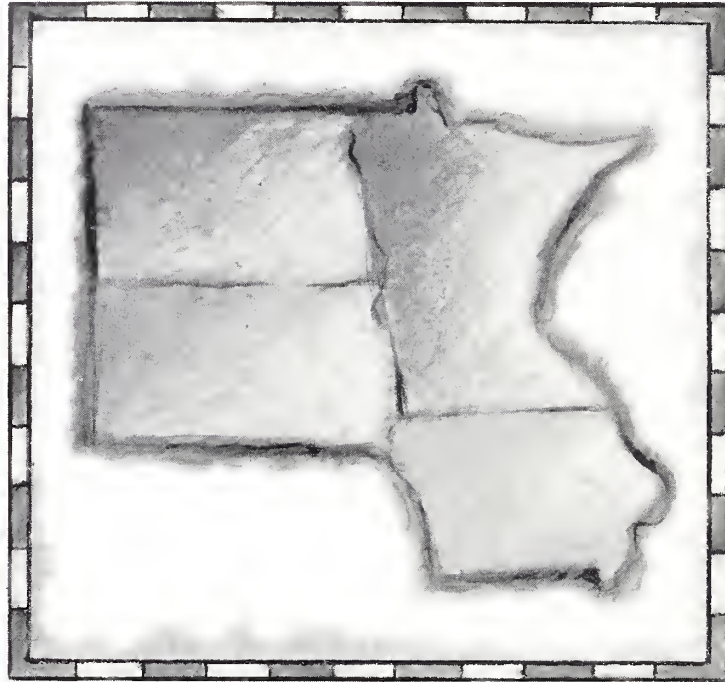
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"A Soft Blanket for the Bubbling Brook", photographed by Douglas M. Traub, MD, Rapid City, SD.

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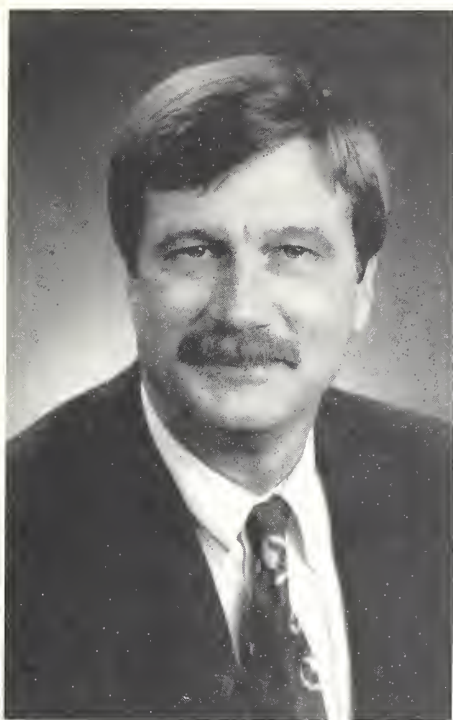
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Thomas L. Krafka, MD, President
South Dakota State Medical Association

I am sitting down to write this just having returned from the AMA interim meeting. In fact, I'm not even home yet and am looking forward to addressing the Brookings/Madison District tonight. I had intended to write about what happened at the AMA meeting – but have identified six areas I want to discuss:

- 1) What happened at the AMA meeting.
 - 2) What's happening in Washington DC with reform.
 - 3) What's happening in South Dakota with reform.
 - 4) Bad news.
 - 5) Good news.
 - 6) What to watch.
- 1) So many issues were discussed and debated at the AMA meeting, that I can't begin to report them all, so I will touch on the highlights. The AMA backed away from "employer mandate" as the source of funding for reform and therefore, distanced itself somewhat from the Clinton Plan. A very comprehensive report was published outlining why Advanced Practice Nurses are not qualified for independent practice. There was mixed support for "any willing provider" legislation and very strong support for a resolution requiring Congress to receive care through the system that they enact.

- 2) There is disagreement about what is happening in DC, but the consensus is that the Clinton Plan as a whole is dead and now the Cooper Plan is the one to watch because of its bipartisan support.
- 3) The number one issue in South Dakota is Medicaid, both funding (under funding) as well as the progress of the managed care pilot program. The PPO formation for state employees in Pierre, as well as managed care for Workman's Comp will provide some interest. The South Dakota State Medical Association will introduce or endorse legislation on seat belts, tobacco tax increase, limited expansion of the roles of physician extenders, prescribing contraceptives to minors, as well as liability reform including a \$250,000 cap on non-economic damages.
- 4) The bad news is that Minnesota will introduce legislation requiring Minnesota purchasers of health care to purchase that health care from Minnesota providers. Also, bad news to me was finding out how many of our colleagues from other states support gun control including eventual prohibition of private ownership of firearms.
- 5) The good news is the same as it has been. Reform and reorganization is not happening as fast in South Dakota as in most other states, and we continue to have good communication with our state government. DakotaCare and Dakota Health Plan gives us an opportunity for active participation in Health Care Reform that physicians in other states are envious of. At last count, eleven other state medical societies want to come here to see how we are doing it.
- 6) It will be important to watch legislative activity in Pierre during January and February. You will be kept abreast of SDSMA legislative agenda through the Grab Bag. In addition to the SDSMA legislative agenda, there will be other health related bills from the Department of Health and other sources. The Association will track these bills carefully and will request your help with legislative contacts when needed. It will also be important to watch what is happening in Minnesota to communicate to your Minnesota patients and referral physicians about how fencing the state line may affect them.

It should be an interesting January.

Happy New Year!

Thomas L Krafka MD



The State of South Dakota's Child: 1993

Ann L. Wilson, Ph.D.

Editorial Note:

Each year Dr. Wilson provides the state with a review of its data on infant mortality and other concerns related to child and family health. This report also highlights childhood immunizations and our nation's goal to have 90% of our preschool children fully vaccinated by the year 2000. While memories of the threats of devastating infectious illness may be clear to senior health care providers, all those who provide care to children must be vigilant in assuring today's children with immunizations' protection from them. There is no need to wait until the year 2000 to achieve the goal of a 90% immunized community. South Dakota must be challenged to achieve this goal sooner so that we may all enjoy its benefits.

Robert C. Talley
Vice President/Dean
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ABSTRACT

This annual report on South Dakota's children highlights 1992 natality and mortality data and discusses the state's effort to improve its rate of childhood immunizations. In 1992 there was a slight increase over the previous year in total births (11,007) with 15% of these American Indians and 2% of other ethnic backgrounds. The state's 1992 infant mortality rate of 9.3 is the lowest ever recorded by South Dakota but represents a rate that is 9% higher than that of the United States. Analyses show that the post neonatal rate of death for American Indians remains much higher than that observed by minorities nation-wide. Progress is continuing in decreasing deaths due to perinatal causes, but infant death due to congenital anomalies and Sudden Infant Death are higher for South Dakota's white and minority populations than they are nation-wide.

Current data show that only 61% of young children in South Dakota are up to date in their immunizations. The state is one of six sites in the nation to receive special funds to develop innovative strategies to achieve the year 2000 goal of a 90% childhood immunization rate. To achieve this goal there must be a commitment on the part of all health care providers to assure surveillance of children's immunization status and provision of vaccines to protect children and communities from preventable serious diseases.

This annual report reviews progress in promoting the health and welfare of children in South Dakota and discusses a specific issue of concern to the health of families and all citizens of the state. The special topic of this year's report will be pediatric immunizations.

In surveying the health of South Dakota's children for this past year, a look at natality data is the natural point to begin. This will be followed by a discussion of infant mortality and then a consideration of childhood immunizations in the state.

BIRTHS IN SOUTH DAKOTA

A review of the "State of South Dakota's Child" obviously begins with observations regarding last year's births of new baby citizens of the state. After nine years of the state's births declining from the previous year, an increase of 61 births was observed between 1991 and 1992 when 11,007 new babies became residents of the state.^{1,2}

The distribution of births continues to reflect a pattern of the state's shifting ethnic composition. In 1992 there was an increase in the state's newborns having a

minority ethnic background, while the number of white babies born in South Dakota continued to decline (9,090 from 9,117 in 1991).^{1,2} In 1992, 17.2% of all births in South Dakota represent a minority background, with American Indians making up 92% of this group. In 1965 minority groups constituted 11% of the total population of the state's newborns.³

South Dakota's 1992 birth rate of 15.8 continues the now five-year trend of representing a rate lower than what is observed nationally (16.0).¹ Also, an increasing percentage of all newborns residing in either Minnehaha or Pennington county has been sustained. In 1992, similar to 1991, 32% of all newborns were residents of one of these two counties and 42% of all births in the State occurred in these two counties.^{1,2}

Evidence of steadily increased utilization of prenatal care is observed in the data presented in Figure 1. In 1992, nearly all (98.7%) newborns' mothers received some prenatal care with 79% receiving care in the first trimester of their pregnancies. This was true for 82% of all white women but of only 61% of American Indian women. Though this discrepancy signals the need for continued effort, the 1992 data document progress since 1982. Now 7% more white women receive first trimester prenatal care and 21% more American Indian women receive this early prenatal care.

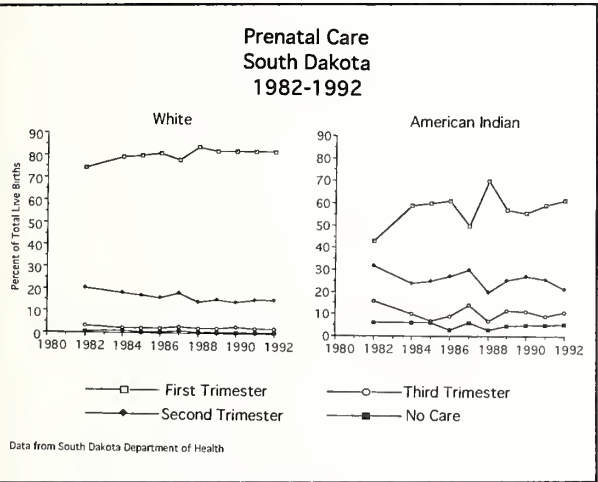


Figure 1

In recent years there has been a great deal of attention given to prevention of low birth weight (less than 2500 grams) newborns through education regarding the identification and treatment of preterm labor.⁴ As current data are examined, there is scant evidence of how this education is reflected in decreases in the incidence of low birth weight (LBW) newborns. In South Dakota, the overall percentage of LBW infants has decreased by approximately 1% since 1965 from 6.27% to 5.23% observed in the years 1990-92. Our rate of LBW newborns has consistently been lower than that observed nationally and South Dakota frequently is among the states in the country with the very lowest incidence of LBW newborns.

Concurrent with the observation that the overall rate of LBW has dropped is how very low birth weight (VLBW) newborns weighing less than 1500 grams are increasingly comprising the cohort of LBW babies. The actual incidence of newborns representing this group of most immature newborns, most at risk for needing costly neonatal care and services for future morbidity, has not declined in the white population (.87 for 1965-1967 and for 1990-1992) and declined by a fraction of a percentage among the American Indians (1.26 for 1965-1967 to .98 for 1990-1992).^{1,3,5-8} Noted in the mid and later 1970s was a slight decline in births of these tiny babies, but in recent years this trend reversed with the percentage of newborns weighing less than 1500 grams actually increasing over the recent years.

Speculation regarding the reasons for the failure to observe evidence of a decrease in VLBW newborns includes a variety of factors. It must be stressed that any prolongation of pregnancy, even when it does not yield a baby weighing more than 2500 grams, may be viewed as successful. Unfortunately, these successes are not well measured in the 500 gram weight increments in which data on birth weight are reported. Another possible explanation is that these data reflect an outcome of advances in perinatal medicine. Today perinatal care is prolonging pregnancies beyond the point of non-viability. What in the past would have been identified as fetal deaths are now live births. Similarly, these same advances in perinatal care are shifting births into the "next" weight category, with the most progress seen in decreases in the cohort of infants with birth weights of 2,000 to 2,500 grams.

Data from South Dakota show that between 1990-1992 mothers of approximately half of all white low birth weight newborns and 73% of minority low birth weight newborns received less than ten prenatal care visits during their pregnancies.^{1,7,8} These data remind us that insufficient or lack of prenatal care appears to be associated with low birth weight. Efforts to assure its accessibility for every pregnant woman must remain a priority. Further, education regarding the early warning signs of preterm labor must be considered a

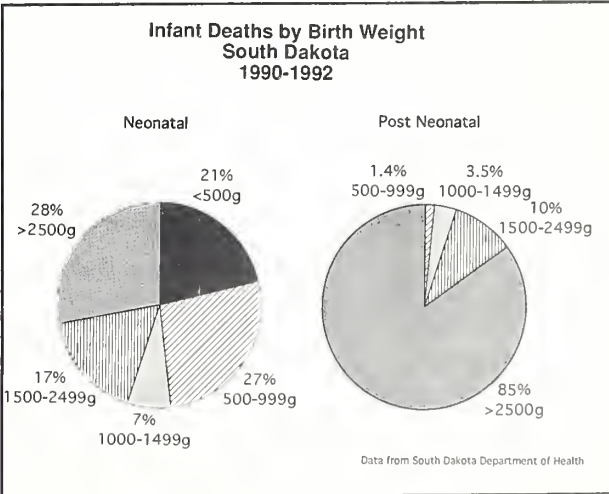


Figure 2

fundamental part of the care a pregnant woman receives so that she may take active steps in identifying and responding to signals indicating the need for intervention that may prolong gestation.

While our incidence of LBW newborns may be less than what is observed nation-wide, its impact is certainly obvious as infant mortality data are examined. Figure 2 shows that between 1990 and 1992 in South Dakota all but 28% of infants who died prior to the 28th day of life were low birth weight. This is not the case for infants who die between the 28th day and end of the first year of life. For this group of infants 85% were of normal birth weight.

INFANT MORTALITY

The year 1992 marks for South Dakota the achievement of an infant mortality rate (IMR) of 9.3.¹ This is the lowest infant mortality rate ever recorded by the state. This positive news, however, is accompanied by the observation that our rate of death for babies is 9% higher than that marked by the United States' provisional rate of 8.5.⁹ As can be observed in Figure 3, 1992 is the third consecutive year that the South Dakota rate of infant death has surpassed that of the nation. To better understand current and past trends, infant deaths will be examined in terms of differences noted in the neonatal and post neonatal rates that comprise the infant mortality rate and in terms of differential rates observed between racial groups. Following these analyses, changing patterns in data on causes of infant deaths will be presented.

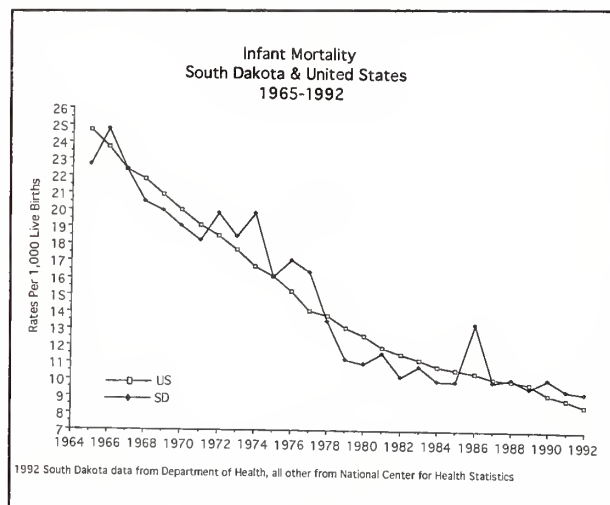


Figure 3

Currently, in South Dakota approximately 55% of all infant deaths occur neonatally (during the first 28 days of life).¹ This is true for approximately 67% of all infant deaths nation-wide.⁹ Figure 4 portrays data showing that South Dakota's neonatal mortality rates (NMR) compare favorably to those of the nation, but also how the minority post neonatal mortality rates (PNMR) are more than triple those of whites in South Dakota and are 79% higher than the rate observed for minority infants nation-wide. These data capture a current

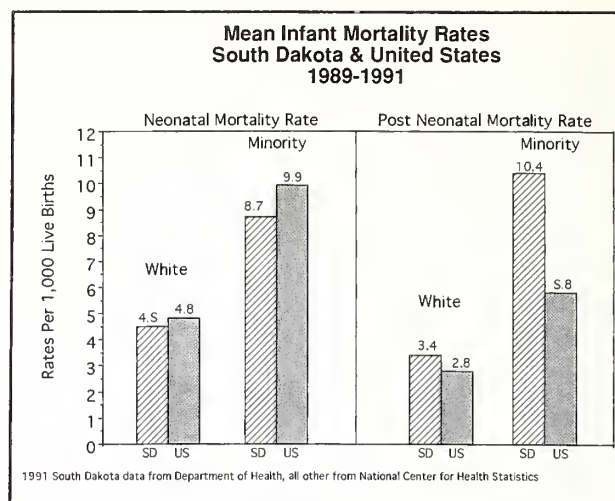


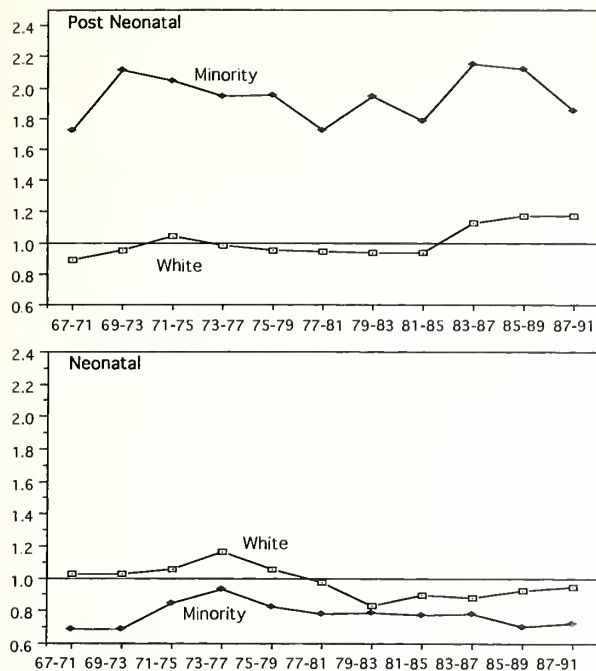
Figure 4

perspective on perinatal outcome, but do not convey insight on how trends in infant mortality are changing over time.

The ratio data presented in Figure 5 provide a longitudinal picture of how, since 1967, our state's neonatal and post neonatal rates for white and minority babies compare to those for the United States. The ratios plotted in this graph represent five-year moving averages that remove difficult-to-interpret jagged peaks and valleys resulting from the calculation of rates with our state's small number of annual births. The plots in Figure 5, are comparisons of South Dakota's and the United States' mortality rates. If mortality rates for our state and the country were equal, the ratios would be plotted at 1 on the Y axis which is indicated by the horizontal lines that transect the graphs. When the plots are above 1, this indicates that our rates exceed those of the United States. Plots below 1 indicate that South Dakota's rate is lower than that observed nationally.

In Figure 5, the bottom pair of lines plot, with five-year moving averages, the ratios of the United States' and South Dakota's rates of neonatal mortality for white and minority newborns. These data indicate that with the exception of the 1970s for whites, the likelihood of survival in the first 28 days has consistently been better for all new babies in South Dakota than it has been nation-wide. In 1974, white babies in South Dakota were 22% more likely to die than were those nation-wide. This ratio reversed itself with data from 1980 showing that white babies in South Dakota were 30% more likely to survive than babies nation-wide. Since the 1980s, the South Dakota/United States ratios show that the state's mortality rate for white newborns is gradually converging with that for the country, with the most recent five-year mean falling just 5% below that noted nation-wide. In 1990 and 1991, the South Dakota rate of death for white newborns has equalled or surpassed that observed nationally.^{7,8} Though United States' 1992 data are not available for racial

Ratios of Infant Mortality South Dakota/United States
Five Year Moving Averages
1967-71 to 1987-91



1991 South Dakota data from Department of Health, all other from National Center for Health Statistics

Figure 5

groups, it appears that this trend will be again apparent for this year.

A look at the ratios for minority newborns shows that since 1967 South Dakota has consistently had a lower rate than has been observed for minorities nation-wide. Concomitant with the whites, the difference in rates for South Dakota and the United States was most narrow for minorities in the mid 1970s, and the ratios have continued to increase indicating that minority newborns in South Dakota have survival rates that surpass those observed nation-wide. Notwithstanding these positive observations, the data presented in Figure 4 show how the rates of death for minority newborns in South Dakota and the United States are higher than those observed for white babies.

When the ratios for post neonatal mortality are examined, a different pattern is observed. In the late 1960s, white newborns in South Dakota were less likely to die than those nation-wide. Our white post neonatal mortality rate at that time slightly surpassed what was noted nationally, and then dropped to approximately 10% below the nation's until the 1980s. Over the past decade the white post neonatal mortality rate has again surpassed that for babies nation-wide and is currently

approximately 10% higher than noted for the country as a whole.

Most dramatic is what is noted with the post neonatal mortality rates for minorities in South Dakota compared to what is observed nationally. Figure 4 shows the current minority rate of post neonatal mortality to be almost 80% higher for South Dakota's minority newborns compared to those for the country as a whole. This current observation is reflected in data in Figure 5 showing that this differential actually reflects improvement compared to what was observed over the past decade, when our states' rate surpassed by 110% the rate for the United States.

An examination of these ratios leads to questions regarding why South Dakota is not sustaining its lower neonatal mortality rates relative to those of the United States that were achieved in the late 1970s/early 1980s when tertiary neonatal intensive care was introduced to the state. Also, Figure 5 raises questions regarding why South Dakota's post neonatal mortality rates surpass those of the nation.

Data on causes of infant death partially address these questions. Table I presents the most recent rates of death for the four leading causes of mortality during the first year of life. These are the causes of 62% of all infant deaths in South Dakota and 54% of those of the United States. Also presented in this table are the ratios that compare rates of death for South Dakota's babies with those for the United States.

Very apparent in the data presented in Table I is the observation that the rate of death for congenital anomalies is 32% higher for babies in South Dakota and the rate of Sudden Infant Death Syndrome (SIDS) is 84% higher than that observed for all babies in the United States. Alternately, rates of death due to short gestation and Respiratory Distress Syndrome (RDS) are respectively one-third and one-quarter less in South

Table 1
Cause of Infant Death
South Dakota and the United States
1990 - 1992

	South Dakota 1990-1992	United States 1991	Ratio SD/US
Congenital Anomalies	2.46	1.86	1.32
Sudden Infant Death Syndrome	2.34	1.27	1.84
Short Gestation	.73	1.10	.66
Respiratory Distress Syndrome	.43	.57	.75
Other Perinatal Causes	1.92	2.14	.90
Other Causes	1.75	2.00	.88
Total Infant Mortality Rate	9.60	8.93	1.08

Rates per 1,000 live births

South Dakota data from the Department of Health, US data from the National Center for Health Statistics

Dakota than what is observed nationally. Overall the infant mortality rate in South Dakota for the years 1990-1992 is 8% higher than what was observed in the comparison year of 1991 for the United States.

An examination of causes of death for newborns in South Dakota over the past decade (1979-1981 to 1989-1991) shows that rates of death from perinatal causes (RDS and short gestation) have decreased.^{1,7-12} In addition, data on survival of very low birth weight newborns in South Dakota shows evidence of stable, if not improving perinatal outcome.⁴ Over the past decade, South Dakota has shown more improvement than the United States in decreasing its rate of neonatal mortality due to short gestation (11% vs 5% decrease), but slightly less improvement in its decline in rate of death due to RDS (42% vs 52% decline).

Alternately, the rate of neonatal deaths due to congenital anomalies has increased by 22% for whites and 148% for minority newborns over the past 10 years while the rates for these causes of death have declined nation-wide by 24% for whites and 12% for minorities.^{1,7-12} Analyses of South Dakota's rate of congenital anomalies over the past 24 years show that the current increased rate of neonatal death associated with congenital anomalies resembles what was similarly observed in the 1970s when South Dakota's NMR exceeded that for the United States. Most notable during the years when the neonatal mortality rate fell to its lowest point below that of the United States in the early 1980s was a concomitant drop in the rate of neonatal deaths due to congenital anomalies. As South Dakota's NMR has, in recent years, begun to approach that of the United States, we are simultaneously observing a rate of neonatal deaths due to congenital anomalies that is exceeding the rate for the country. This may well be a random occurrence, but warrants consideration of potential correlates.

Data on causes of post neonatal death highlight how the rate of SIDS in South Dakota has increased by 44% for whites and 41% for minorities over the past decade.^{1,7-12} Nationally the rate of SIDS has decreased by 12% for whites and by 16% for minorities. In South Dakota, there has also been a four-fold increase in injuries among minority infants in the past ten years, whereas this rate of death due to injuries has declined by 4% for minorities nation-wide.^{1,7-12} In spite of these increases, in the rates of these causes of deaths for South Dakota's minorities, its overall PNMR has declined by 15%. This decline exceeds by 3% the decline that has been observed among minorities nation-wide.^{1,7-12}

The very high SIDS rate in the Aberdeen Area of the Indian Health Service is currently receiving a great deal of attention with the joint Center for Disease Control and National Institutes of Health Infant Mortality Study. This study is examining all deaths of American Indian infants that occur following hospital discharge. This prospective study involves death scene investigations, parent interviews, and very thorough post mortem pathology and neuropathological examina-

tions. The findings from this well-designed and administered study will be helpful in better documenting and understanding any possible correlates of sudden death among American Indian babies in our region of the country.

COMMENTS ON CURRENT CAUSES OF INFANT DEATH

What is apparent in this discussion thus far has been its attention to the major causes of infant death for which traditional post natal care can do little to prevent. A review of the major current (1990) causes of infant mortality for the United States well illustrates this observation.¹³

Congenital anomalies, the leading cause of death in infancy, reflect prenatal influences that become manifest long before delivery. Though a great deal of attention has been focused upon the prevention of SIDS (the second leading cause of death), the etiology of this syndrome remains ill defined, thus limiting the ability to prevent its tragedy. Short gestation, the third leading cause of death is certainly treated with increasingly sophisticated technology. However, the prevention of low birth weight remains illusive. Strides have been made in the treatment of RDS, the fourth leading cause of death, with artificial surfactant, but prevention of RDS accompanies the prevention of low birth weight. Maternal complications of pregnancy and complications of the placenta cord and membrane are the fifth and sixth next most frequent causes of infant death, and are again causes that develop prenatally. Injuries are the seventh leading cause of infant death. Though emergency care plays an important role in their treatment, injury prevention requires community-based education. Together, these seven causes comprise 63% of all infant deaths. Not until the eighth cause of death is identified does infection (specific to the perinatal period) appear as contributing to infant death. Pneumonia and influenza are the tenth leading causes of death and septicemia is the thirteenth leading cause of infant death. Together, they contribute to 2.4% of all infant deaths.

IMMUNIZATIONS

A very different picture of the causes of infant death would have emerged if findings on infant mortality from past generations were to be examined.¹⁴ Not only in the past were the majority of infant deaths occurring in the post neonatal period, but infection was a leading contributing factor. The likelihood of infants dying at the turn of the century was ten times what it is today. Going back to the time of the founding of our nation, parish roles in Philadelphia show that 50% of all deaths were among children less than ten years of age.¹⁵ It is easy to forget how frequently children died from what are now preventable infectious illnesses. Sobering data on how deaths such as these from distant and even recent decades highlight the important role immunizations have played in prevention:

* During the 1930s and 1940s pertussis was a leading cause of infectious mortality and morbidity among children.

* Fifty years ago diphtheria was a common respiratory illness with fatalities in the range of 5-10%.

* Prior to 1955 more than 18,000 cases of paralytic polio were reported in epidemic years.

* Until the 1960s there were approximately 500,000 cases of measles reported annually. In measles epidemics prior to the 1960s, death occurred among 1 in 15 affected children.¹⁶

With the advent of antibiotics in the late 1940s and ongoing development of pediatric immunizations, the deadly threat of infections and the fear that accompanied them has been assuaged. This "modern" attitude regarding the threat of infection was by necessity reexamined nationally when there were 150 deaths attributed to an epidemic of measles in 1989-91. In South Dakota this epidemic was observed with a total of 23 cases of measles reported; one case in a child under two years of age, one adolescent, and the remaining in young adults. In 1992, South Dakota reported 17 cases of pertussis, the most cases reported in any one year for the past 20 years.¹⁷

An analysis of the recent measles epidemic by the Centers of Disease Control blamed it upon the nation's failure to provide preschool-aged children with immunizations on schedule.¹⁸ Available data suggest that less than 60% of children in the United States are up-to-date on their immunizations by their second birthday.¹⁹ A subsequent analysis of why this was the case, undertaken by the National Vaccine Advisory Committee, highlighted a combination of problems including missed opportunities to vaccinate children, a fragmented vaccine delivery system that limits access to services, inappropriate understanding and attitudes regarding vaccinations among parents and health care providers, and the existence of other financial, sociocultural, and logistical barriers.²⁰

Among the Public Health Service's Year 2000 Goals is one that aims for a 90% rate of age-appropriate immunizations for all children under the age of 2 years.²¹ To assist in the achievement of this goal, the federal government in 1991 selected six sites nationwide to pilot new and innovative approaches to achieving the year 2000 goal. Rapid City was selected as the only rural site for one of these pilot projects.

The South Dakota Infant Immunization Initiative Plan (I-3) is the outcome of this new federal initiative. Among its efforts has been its retrospective study of two year olds' immunizations that was conducted across all counties in South Dakota. Findings from this study completed in April 1993 show that overall there is a 61.4% rate of adequate immunizations (4 DTP, 3 OPV, 1 MMR) among the state's children by the age of two years.¹⁷ Data from the state's 65 counties show that

adequacy rates ranged from 33% to 87%. Data from this study show that eight counties (three east river and five west river) had immunization rates of less than 50% for its two year old children. McPherson and Campbell counties in North Central South Dakota had the highest immunization rates (80 and 87%).

Among the service units in South Dakota of the Aberdeen Area of the Indian Health Service, 1993 data show a higher rate of immunizations than is noted state-wide. Currently 89% of children served by these units are fully immunized with the eight units having full immunization rates ranging from 81 to 92%.²²

While these findings provide information useful in understanding current needs, the challenge for the state is to identify means of assuring that all children are receiving on schedule the current recommended immunizations. With the coordinated efforts of the I-3 program, a variety of strategies for achieving this goal have been initiated. Essentially, these strategies are attempting to eliminate barriers to children's receipt of immunizations by optimizing possible points of public and private contact with children and parents (WIC, food stamps, public assistance, emergency room and public and private practitioner offices) as opportunities to assess immunization status and to provide needed vaccinations. In addition, the program is providing public and professional education regarding the importance of immunizations and appropriate medical management of them.²³ To date, among the accomplishments of the program are the following achievements:

- * Amendment of the state's immunization law to now require children enrolled in any early-childhood program to be fully immunized.
- * A 37.2% increase in the fourth dose of DTP administered to children less than two years of age in the public and private sector since November 1991.
- * Immunizations given to 1,860 children by two WIC nurses between January and July 1993 at expanded sites for this service (WIC clinics, kindergarten screenings, and health fairs).
- * Attendance by approximately 500 health care providers at one-day courses on immunizations.
- * Establishment of several community work groups that examine local barriers and how they may be removed to assure full access to immunization services.

While these South Dakota efforts have been possible with the impetus and resources provided by the I-3 Program, federal initiatives to assure childhood immunizations will be expanding nation-wide with the passage this fall of the Omnibus Budget Reconciliation Act of 1993 that contains reforms in the nation's immunization system.²⁴ Beginning in October 1994 free vaccines will be distributed to more than 10.6 million

preschool children who currently are not receiving immunizations because of financial or other administrative barriers to receipt of this vital care. Universal distribution of free vaccine alone will not increase immunization levels. This is recognized in South Dakota with data showing how in spite of the state's free distribution of vaccine, immunization rates among young children have been inadequate.

Many devastating infectious diseases are not apparent today due to previous successful public health measures. Vigilance in preventing the silent threat of potentially fatal diseases, however, must be maintained. Unfortunately, it required an outbreak of measles to renew spirited efforts to assure immunizations for children.

Now that public measures are being taken to assure children's financial access to vaccines, there must also be effort among professionals that assure surveillance of all children's immunizations status and provision of vaccines when needed. The Year 2000 Goal of assuring all children complete immunizations seems very achievable. Its very existence as a goal to be achieved, however, represents a very sad commentary on the current public health of our state and nation. In our sophisticated era of modern medicine, there is no excuse for failure to assure children of protection from essentially preventable diseases through simple immunization.

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REFERENCES

1. Unpublished 1992 data from SD Dept of Hlth, 1993
2. National Ctr for Hlth Statistics, Advance Report of Final Natality Statistics, 1991, Monthly Vital Stats Report, September 9, 1993;42,No. 3, Supplement.
3. Vital Stats of the US, 1965, Volume I - Natality. US Dept of Hlth Educ and Welfare, Public Hlth Serv, Washington, D.C.
4. Wilson, AL: The state of South Dakota's child: 1991. SD J Med 1992;46,13-20.
5. Vital Stats of the United States, 1966, Volume I - Natality. US Dept of Hlth Educ and Welfare, Public Hlth Serv, Washington, D.C.
6. Vital Stats of the United States, 1967, Volume I - Natality. US Dept of Hlth Educ and Welfare, Public Hlth Serv, Washington, D.C.
7. SD Vital Stats and Hlth Status: 1990, Ctr for Hlth Policy and Stats, SD Dept of Hlth, Pierre, SD.
8. SD Vital Stats and Hlth Status: 1991. Off Administrative Serv Research and Stats Unit, SD Dept of Hlth, Pierre, SD.
9. National Center for Hlth Stats, Annual Summary of Births, Marriages, Divorces and Deaths: United States: 1992. Monthly Vital Stats Report, Sept 28, 1993;41,No. 13.
10. Vital Stats of the US, 1979, Volume II- Mortality Part A, US Dept of Health and Human Serv, National Cntr for Hlth Stats, Hyattsville, MD.
11. Vital Stats of the US, 1980, Volume II- Mortality Part A, US Dept of Hlth and Human Servs, National Cntr for Hlth Stats, Hyattsville, MD.
12. Vital Stats of the US, 1981, Volume II- Mortality Part A, US Dept of Hlth and Human Serv, National Cntr for Hlth Stats, Hyattsville, MD.
13. Unpublished 1990 data from the National Cntr for Hlth Stats, Table 2-7, Section 2, page 7, 1993.
14. Starfield, B. Social Factors in Child Health. In Ambulatory Pediatrics III, M. Green and RJ Haggerty (Eds.), Philadelphia: WB Saunders Co., 1984.
15. Shryock, RH Medicine and Society in America 1660-1860. New York: New York University Press.
16. Dossett, JH Immunizations. In Primary Pediatric Care, Second Edition, RA Hoekelman, SB Friedman, NM Nelson, HM Seidel (Eds.), St. Louis, Mosby, 1992.
17. Unpublished data from Communicable Disease Program, SD Dept of Hlth, 1993.
18. Ctrs for Disease Control. Measles vaccination levels among related groups of preschool-aged children-United States. MMWR 1991;40,36-39.
19. Public Health Service. Standards for Pediatric Immunization Practices. Ctrs for Disease Control & Prevention, Atlanta, GA, 1992.
20. National Vaccine Advisory Committee. The measles epidemic. JAMA 1991;266,1547-1552.
21. Public Hlth Service. Healthy People 2000: National Hlth Promotion and Disease Prevention Objectives. Washington D.C. US Hlth and Human Serv; 1991. US Dept of Hlth and Human Serv publication PHS 91-50213.
22. Aberdeen Area of Indian Hlth Serv, Childhood Immunization Quarterly Report, November 1993.
23. South Dakota IAP Update, 1993. SD Dept of Health.
24. Children's Defense Fund, 1993. Childhood immunizations provisions on the Budget Reconciliation Act of 1993, news release, 1993.

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How do You Want to Spend Your Money?

There is little doubt that there will be changes or reform in our health care system in the United States. While there is active discussion of maintaining access and quality for all citizens, the main driving force for change is the high cost of health care. Comparison of the high percentage of the gross national product spent by this country on medical care compared to other nations are common in the news media. Pressure by business groups, by federal and local governmental sources for managed care or managed competition models are commonplace. Threats of global budgets to prevent "escalating costs" are a frequent. All this leads to the conclusion that medical costs must be reduced and that only limited revenues will be allocated for health care.

Certainly there are many components in costs for Medicare care. In this column we will only address the costs of professional liability. The Clinton Plan offers solutions by arbitration panels and adherence to medical practice guidelines or parameters to avoid lawsuits. Whether either of these will be effective is as yet unknown.

A further cause for concern is that the powerful Trial Lawyers Association has not received nearly the credit they deserve for being an effective pressure group compared to other entities such as the AMA and insurance industry. Seeing as the trial lawyers have their peers strategically placed in Congress and the White House, there is even more cause for concern.

The problem is what approach to take. The right to sue is so basic in this country that it is not reasonable or desirable that this right be taken away. One can, hardly, argue that the escalating sizes of malpractice awards are a significant element in the cost of medical care even if one does not take into consideration the practice of defensive medicine which is present at every level of patient interaction and care. When death or damage has occurred to a patient and a lawyer can convince a jury that this was due to some form of negligence by the caregivers, the public seems to be quite satisfied that monetary compensation should be awarded. The question is how much and for what? Replacement of economic losses as a result of medical bills or lost earning power strikes a reasonable note. However, let us discuss awards for pain and suffering and its components. A recent multimillion dollar suit was awarded with a substantial element of award for pain and suffering of family members over a death. The State Supreme Court in defending the high amount of the award indicated that the cap of one million dollars present in the existing statute did not apply since multiple family members each could sue for the amount of the cap and hence the high award over four times the cap was justified.

If the above is allowed to stand the amounts of awards will continue to increase and the cost is even-

tually paid by the people regardless whether the secondary payor is a private citizen, insurance company or government. Does it not seem reasonable then to allow economic loss to be recovered, but there be a limit or *cap per case* on awards for pain and suffering. Such a cap has been in effect in California. One could argue that economic losses are finite and can be quantitated, but awards for pain and suffering vary according to the effectiveness of the plaintiff's attorney and sympathy of the jury and are not uniform and thus not equitable.

A related subject concerns the fact that reduction of lawyer's contingency fees is going to be strongly opposed by the Bar Association. There is enough written about high medical fees as a cause for the high cost of Medicare care. If physicians and hospitals are going to receive reduction in payment, should not lawyers share in reduction to bring health care costs under control? It all can be reduced to a simple fact. If there are going to be limits on what we spend for health care, how do you want to spend your money? Childhood immunizations and health care visits seem more important than very large professional liability settlements.

John F. Barlow, MD

Editor

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The Doctor-Patient Relationship: Time Management and Diagnostic Methods of the Family Physician An Undergraduate Perspective

David A. Brechtelsbauer, MD, and Crispin J. Webb, II

ABSTRACT

Physicians are often called upon to mentor students considering a career in medicine. There are seldom clear guidelines as to what either the student or the physician should do during these experiences. The following article is offered as a model of what the student and physician authors considered a productive experience that was both academically sound and directed toward helping the student thoughtfully look at a medical career.

The study itself, accomplished during a one month "interim" experience during the student's junior year of college, addresses the question, "How do family practice doctors function during typical office visits?"

INTRODUCTION

Experience in a practicing, clinical environment is an opportunity not often provided to students on an undergraduate academic level. Students having an interest in pursuing an advanced degree in medicine often decide to become physicians without enough knowledge of, or experience in, the profession. Some students choose to volunteer so as to experience the many facets of health care, gain a sense for health care management, evaluate their reactions, and test themselves in relation to their possible future goals.¹ Health service practicums, undergraduate preceptorships, and shadowing experiences are other possibilities open for student involvement. These practicums have a two-fold purpose: to help students decide on the health field as a career; and to help students decide in which of the various disciplines to seek further training.²

An off-campus, internship-like experience, collaboratively coordinated by the student and an on-site project physician, is another way to provide an appropriate learning environment for an undergraduate student expressing an interest in medicine. Evidence exists that programs between medical centers and undergraduate academic institutions show students interested in medicine, through practical and systematic steps, the rewards of a career in medicine.³

The project must strive to meet at least three essential factors in order to be successful. The project must

first meet the student's established objectives and goals. Second, it must satisfy the academic institution's requirements in order to be eligible for official recognition and credit. The third essential factor in this effort is a physician. Without an interested and cooperative physician to function as a source of information, a guide to the profession, frequently a translator, and a mentor to the student, the project can be ineffective. With appropriate structure and definable endpoints, a project like the one described below can allow the undergraduate preceptorship to grow from a "show and tell" experience into one placing a great deal of appropriate responsibility on the student, and to guide the student to more productively and effectively understand what is being seen.

This study is the product of such an undergraduate arrangement. It is intended to address the question, "How do family practice doctors function during office encounters?", by investigating the diagnostic methods and time-management aspects of the doctor-patient encounter through the eyes of a control individual, the student.

METHODS:

Information Observation Materials

The observational strategy, or method, included direct observation of doctor-patient interactions, limited review of video-taped encounters, and a survey of physicians developed and constructed by the stu-

DATE: _____
 LOCATION: _____
 PHYSICIAN: _____

M F NEW
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	Reviewing Chart	Visualize Patient	Conversation	Obtain History	Physical Exam	Special Procedure	Labs	Consulting References	Administrative Tasks	Health Education	Overall
Order/Sequence											
Time											
dx made											
Treatment Decision											
Revisions											

NOTES: _____

Figure 1

TABLE I	
Categories	Definitions
Reviewing Chart	Physician review of the patient's history before first entering the exam room.
Visualize Patient	Period in which the physician may pause briefly, only to look at the patient.
Conversation	Casual conversation between the physician and patient not directly related to any health complaint.
Obtain History	Gathering of information directly related to the patient's health complaint.
Physical Exam	Conducting an actual physical examination.
Special Procedure	Carrying out any procedure that may become necessary upon examination, i.e. ear cleansing, setting a broken bone, trimming a callous, etc.
Labs	Ordering any laboratory tests necessary, i.e. a CBC, UA, or CXR.
Consulting References	Physician consultation of any reference that may prove useful in diagnosing or treating the patient, i.e. PDR or Drug Formulary, textbook, computer data base.
Administrative Tasks	Performing administrative procedures, i.e. chart or form completion, or prescription paperwork. Any dictation observed would fall under this category.
Health Education	Educating the patient about any diagnosis or treatment decision.
Other	In all <i>graphic</i> representations of observed results this category entails minor time components, i.e. casual conversation and visualizing the patient.

dent. Prior to the study of any physician-patient encounters, it was necessary to develop a set of reproducible, objective criteria as well. A preliminary

categorical flow chart was assembled around factors that the student expected to be integral components of a patient encounter.

1. Reviewing the patient's history before first entering the exam room.
2. Gathering information from the patient about his/her complaint.
3. Conducting a physical exam.
4. Deciding how to treat the patient.
5. Discussing the decision with the patient.

The chart allowed the observer to note and time each component as it occurred.

The student then added to these initial components of the observational chart after completing some early "test run" doctor-patient encounter observations. The final chart appears in Figure 1. Exact definition of terms is provided in Table I.

An exploratory questionnaire (see Figure 2) was constructed and distributed to allow the student to begin to understand the diagnostic and therapeutic steps surveyed physicians felt made up a patient encounter. The survey questions focused on percentages of time the doctor felt was spent in a patient encounter, at what point in an encounter a final diagnosis was reached, and how many different possible scenarios, or differentials, were typically considered by the physicians surveyed.

GATHERING DATA

Surveyed

The physician surveys were distributed to the doctors at the Family Practice Center, Inc. (FPC) in Sioux Falls, South Dakota. Thirty-eight questionnaires were distributed to 26 residents and 12 staff physicians.

Name: _____
 Specialty: _____
 Clinic Location: _____
 Level of Experience circle one
 R1 R2 R3 Staff

1) Average percentage of your time spent during an Acute Care visit:
 Please total 100%

- (a) Obtaining History ____%
- (b) Physical Exam ____%
- (c) Special Procedures ____%
- (d) Consulting References ____%
- (e) Administrative Tasks ____%
- (f) Health Education ____%
- (g) Other ____%

2) At what point do you usually determine a final diagnosis?
 Circle one each in Rank Order: 1 being least often and 5 being the most often

- (a) Reviewing Chart 1 2 3 4 5
- (b) First Visualizing Patient 1 2 3 4 5
- (c) Obtaining History 1 2 3 4 5
- (d) Physical Exam 1 2 3 4 5
- (e) Consulting References 1 2 3 4 5

3) How broad is your usual differential diagnosis?

- (a) 1-2 possibilities
- (b) 2-3
- (c) 3-4
- (d) 4-5
- (e) 5 or more

4) How accurate is your differential on average? Please comment.

Figure 2

The physicians were given the surveys at the beginning of the office's daily noon conference, and were asked to complete and return them following the meeting. All of the resident and 7 of the 12 staff surveys were completed, totaling the 33 questionnaires (86.8%) which were returned and utilized in data compilation.

Observed Patient Encounters

Before entering an exam room, the student reviewed the patient's chart with the physician, and timed the event until entering the exam room. Immediately upon entering each exam room, the student was introduced as a student observer doing a study on doctor-patient interactions. Observation only continued after permission was granted by the patient. In no case was permission denied.

As each exam proceeded, the chart components were noted and timed as they occurred. Categories were first sequenced by placing a 1, 2, 3, etc. in its corresponding order/sequence box on the flow chart. Each categorical event was timed, as well. Any casual conversation was timed until another component was begun, such as the physician's asking of open-ended health questions. At this time the total time of conversation that previously took place was noted on the chart, and a new time was started for *obtaining history*. Each

component concluded with the beginning of another, and the preceding category's time was recorded as the next event's time was initiated.

The remainder of the observed data included the times that final diagnoses were made, and the times of any treatment decisions. It was on the occasion that the physician first informed the patient of his/her diagnosis that the *Diagnosis Made* box was marked on the observational chart. The same was true for any treatment decisions made during each patient encounter. The event was recorded in the appropriate *Treatment Decision* box. Each notation always corresponded with a characteristic examination component.

RESULTS

Observed

A total of 50 encounters were observed and timed. Out of the 50 examinations, a total of 4 special procedures were performed, ranging from a 30-second earwax removal to a 5-minute and 27-second callous trimming. Reference consultation was observed twice. On one occasion, a third-year resident discussed a case with a staff physician, and on the other occasion, a pocket drug formulary was referred to.

When the student was able to observe chart/form completion and other administrative tasks (43/50 visits), it was revealed that the physicians spent an average of 1.95 minutes per visit (ranging from 30 seconds to 32 minutes) of their time completing such work. Physician dictation was observed 22 times out of the 50 visits. Dictation averaged 2.86 minutes (ranging from 52 seconds to 5 minutes and 46 seconds). Paperwork and time dictating were combined and reported as *Administrative Tasks*. Figure 3 summarizes the perceived and actual average times expressed as a percentage of the total patient encounter.

The remainder of the observed data results include a total of 26 times that final diagnosis was made and witnessed. The various occasions that the physician first informed the patient of his/her diagnosis are presented in Figure 4. Out of the 50 cases, 30 treatment decisions were made, and of those decisions, 11 were revisions of previous prescriptions.

Surveyed

The physician surveys reveal how much time the participating physicians feel is being spent in a patient exam. The individual responses of each of the physicians have been totaled and averaged for each category. These average time components are presented in Figure 3 as a comparison between how time is *thought* to be spent and how it was *observed* to be spent. Out of 7 staff physicians, 5 asserted that they

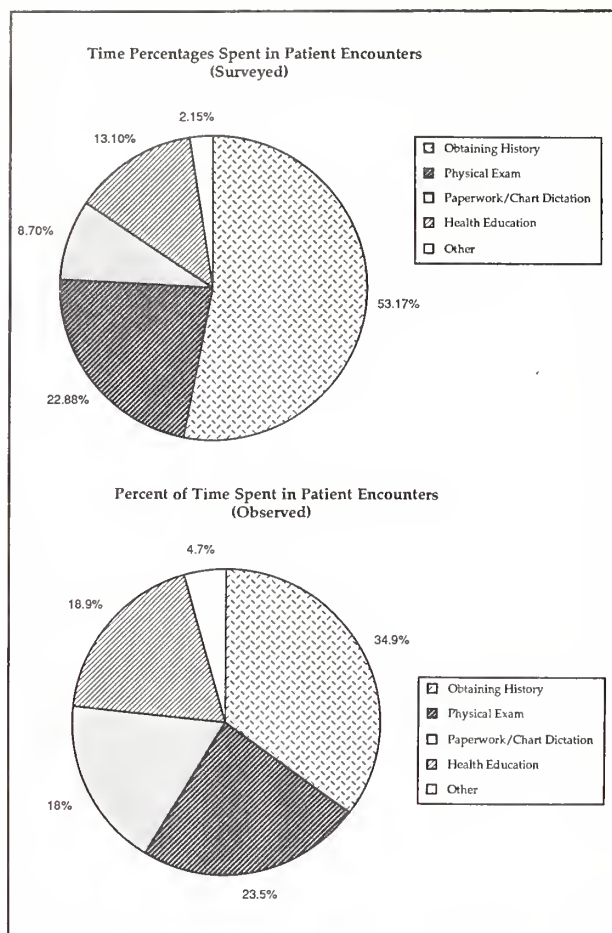


Figure 3

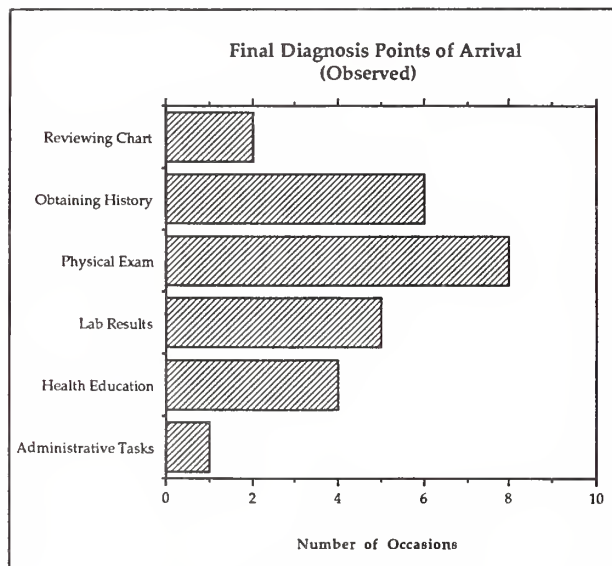


Figure 4

spend 50% or more of their time obtaining history, 4 claimed to spend 16%-25% of their time with health education, 3 spend no time performing any special procedures, 5 spend 1%-5% of their time consulting references, and all of them felt that 5%-25% of their

time was used completing paperwork. The resident physicians answered comparably with staff in all areas except one. Fifteen out of 26 resident physicians asserted that 10%-15% of their time was with health education, significantly less than staff perceptions.

The surveys show that physicians felt a final diagnosis was most frequently made during 2 components of the exam — *Obtaining History* and the *Physical Exam*. The 2 components in which a final diagnosis was least frequently made were believed to be after either *Visualizing the Patient* or *Consulting References*. *Reviewing the Chart* before entering the exam room fell exactly in the middle of the results. Two physicians did rank *Consulting References* first in arriving at a final diagnosis most frequently: one staff physician, and one second-year resident. Two physicians ranked *Scanning the Chart* as their first choice, as well: again, one staff physician, and one third-year resident. These results are summarized in Figure 5.

The results as to the number of usual differential possibilities are tabularly divided with regard to experience levels in Table II. In all cases, the participating physicians commented on differential accuracy as including the actual final diagnosis between 70% and 95% of the time.

CONCLUSIONS

Comparing the results of the physician questionnaire to the results gleaned from the observed data gives rise to helpful information. The physicians of the FPC generally have an accurate feel for how they divide their time in an examination environment. Observed time percentages are reasonably comparable with the surveyed percentages. The majority of a patient encounter is spent in obtaining patient history. This finding leads to some deeper considerations.

Physician questions concerning biomedical topics, which some methods of history-taking entail, have been shown to be negatively related to patient satisfaction.⁴ By the same token, a recent study asserted that both health education and the physical examination have substantially positive effects on overall patient satisfaction.⁵ These may be some aspects of our findings to consider, though nothing on which to base a sound conclusion. This may reflect a potential physician-patient conflict as to the perceived importance of various parts of office visits.

The results of this study suggest that family physicians feel most time during the patient encounter is spent in history taking, and that most diagnoses are made at that time. When observed, family physicians spend less time in history taking (and more in administrative tasks) and most often ultimately make a diagnosis during the physical exam portion of the encounter.

Overall, the project arrangement was also helpful to the student in that it has reinforced his decision to pursue medicine as a career. The surveyed data may be interesting but possibly inaccurate in that respondents may have been influenced by the desire to portray

themselves favorably or by an inability to provide correct and total recall.⁶

REFLECTIONS AND RECOMMENDATIONS

Increased, as well as, more active and academically sound undergraduate preceptorships and/or shadowing experiences could prove to be valuable to improving the future of family medicine, and medicine in general, in South Dakota communities. Participating with physicians in the practice of clinical medicine, while conducting unique and individual studies such as the one reported here, can prove beneficial to both the undergraduate student and the physician preceptor. Future student studies could be improved by the implementation of an established, valid, and reliable method of observation, i.e. the Davis Observation Code (DOC).⁶ This could enable greater generalizability of the clinical research being done.

Further clinical research using standardized methodologies, terminologies, and instruments such as the DOC is needed to examine relationships between physician behavior and patient outcomes in more depth, and could help determine more exactly which types of medical history-taking are associated with patient and physician satisfaction and dissatisfaction.⁵

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REFERENCES

1. Dumont JA: Student volunteering. *Pharos of Alpha Omega Honor Med Soc* 1990;53(3):46-47.
2. Thorpe JH: Recruiting for medicine [letter]. *Ann of Int Med* 1989;111(12):1046-1047.
3. Geokas MC, Branson BJ: Recruiting students for medicine. *Ann of Int Med* 1989;111(5):433-436.
4. Bertakis KD, Roter D, Putnam SM: The relationship of physician medical interview style to patient satisfaction. *J of Fam Prac* 1991;32:175-181.
5. Robbins JA, Bertakis KD, Helms LJ, Azari R, Callahan EJ, Creten DA: The influence of physician practice behaviors on patient satisfaction. *Fam Med* 1993;25:17-20.
6. Callahan EJ, Bertakis KD: Development and validation of the Davis Observation Code. *Fam Med* 1991;23:19-24.

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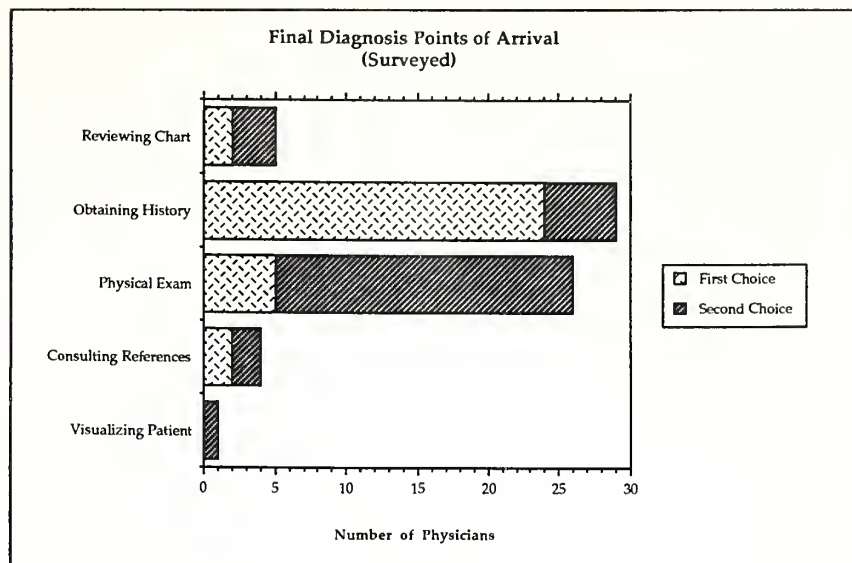


Figure 5

Table II

Number of Usual Differential Possibilities

No. of Differentials	First Year Residents	Second Year Residents	Third Year Residents	Staff Physicians	TOTAL
1-2.	1	1	1	1	4
2-3.	7	8	7	4	26
3-4.	0	1	0	2	3
4-5.	0	0	0	0	0
5 or More	0	0	0	0	0

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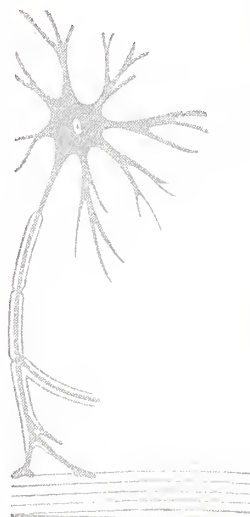
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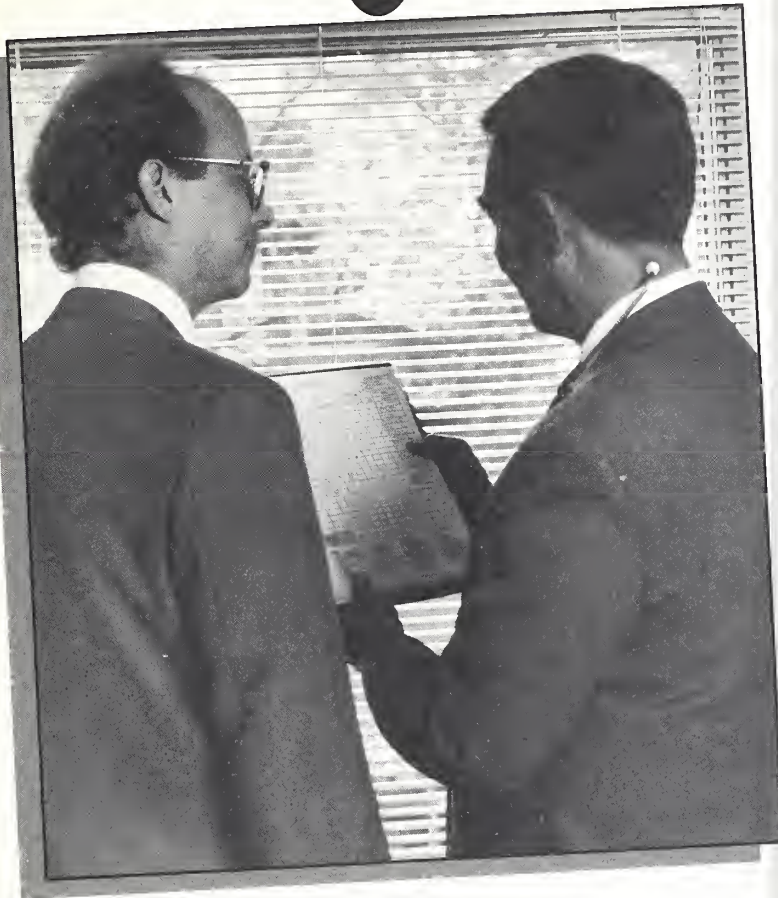
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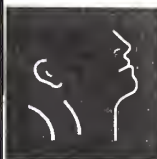
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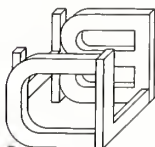
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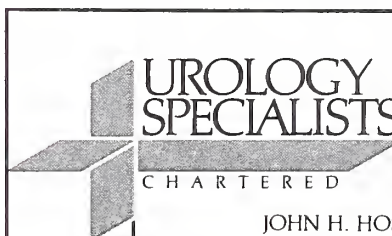
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Thrombolytic Therapy for Acute Myocardial Infarction

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Few areas of pharmacotherapy have stirred as much debate or controversy as that of thrombolytic therapy for acute myocardial infarction. Considering that thrombolytic therapy was resurrected in the latter part of the 1970's, after several dissimilar studies in the 60's and 70's revealed inconclusive results, the scope and magnitude of the studies conducted in the late 80's and early 90's are remarkable. Extensive effort and resources (financial and manpower) have been consumed to try and find the answer to the debate, "Which thrombolytic agent should be used first-line?" Most likely this would not be an issue at all if it weren't that these agents, most notably streptokinase and tissue plasminogen activator (t-PA), were significantly different in cost (streptokinase cost = \$300, t-PA cost = \$2200).

In the past several years, the results of several large, multicenter trials have been published.¹⁻⁴ With the exception of the GUSTO trial,⁴ all the recent large comparative studies have demonstrated that there was no statistical or clinical difference in survival benefit between streptokinase and t-PA. In contrast, the GUSTO trial did show a statistically significant benefit with t-PA in 30 day survival compared to streptokinase.⁴ The 30 day mortality was 7.3% for the two streptokinase treatment groups compared with 6.3% for the t-PA treatment group. Although the difference in mortality is statistically significant, the difference of 1% (or a relative reduction in mortality of 14%) has been one of the focal points of discussion. Is an absolute decrease in mortality of 1% clinically significant? And more importantly, does the potential survival benefit outweigh the significant cost associated with t-PA use? It will cost an institution an additional \$200,000 per 100 patients treated to potentially save one additional life, if that institution were to solely use t-PA instead of streptokinase. Certainly this is an ethical dilemma that is difficult to answer.

An additional area of concern with thrombolytic therapy is the potential difference in hemorrhagic risks associated with the two agents. Three of the recent large trials (GISSI-2, ISIS-3, and GUSTO) have demonstrated similar differences in the rate of risk for in-hospital stroke between streptokinase and t-PA. The risk for hemorrhagic stroke in these studies was higher for patients receiving t-PA than for those receiving streptokinase. More specifically, in the ISIS-3 study the rate of hemorrhagic stroke for the streptokinase treatment group was 1.04 per 100 patients in comparison with a rate of 1.39 per 100 patients treated with

t-PA.³ This difference was statistically significant. In the GUSTO trial, the rate of hemorrhagic stroke for t-PA was 0.72 per 100 patients and 0.49 and 0.54 per 100 patients in the streptokinase treatment group with subcutaneous heparin and intravenous heparin, respectively.⁴ The excess of hemorrhagic strokes observed with t-PA was statistically significant compared to the two streptokinase regimens. Additionally, the rate of hemorrhagic strokes observed in the accelerated t-PA group was more pronounced in those patients who were over 75 years old (t-PA, 2.08%; streptokinase, 1.23%). This brings up another difficult question, does the potential 1% reduction in mortality outweigh the potential increased risk of stroke when using t-PA? Again, this question is not easily answered.

A third point that needs to be addressed is whether streptokinase or t-PA is potentially the better thrombolytic agent when looking at the age groups of the patients that are being treated. Besides the increased risk of hemorrhagic stroke associated with t-PA use in patients greater than the age of 70 to 75 years, the GUSTO subgroup analysis showed that there was a significantly smaller net benefit, if any at all, for t-PA over streptokinase on 30 day mortality. The benefit on survival for t-PA and streptokinase is similar in patients over 70 years of age, but the risk of hemorrhagic stroke is increased in those who receive t-PA.

The question of which thrombolytic agent should be considered the most effective first-line therapy will probably not be answered anytime soon. However, based on the large and well-designed studies that have been conducted to date, the use of thrombolytic agents in acute myocardial infarction is without question beneficial, regardless of which specific agent is used. The most important aspect of this whole topic may not be which thrombolytic agent to use, but to use a thrombolytic agent as soon as possible in acute myocardial infarction when it is appropriate.

REFERENCES

1. Gruppo Italiano per lo Studio della Sopravvivenza nell' Infarto Miocardico. GISSI-2: a factorial randomised trial of alteplase verses streptokinase and heparin verses no heparin among 12 490 patients with acute myocardial infarction. *Lancet* 1990;336:65-71.
2. The International Study Group. In-hospital mortality and clinical course of 20 891 patients with suspected acute myocardial infarction randomised between alteplase and streptokinase with or without heparin. *Lancet* 1990;336:71-75.

3. ISIS-3 (Third International Study of Infarct Survival) Collaborative Group. ISIS-3: A randomised comparison of streptokinase vs tissue plasminogen activator vs anistreplase and of aspirin plus heparin vs aspirin alone among 41 299 cases of suspected acute myocardial infarction. *Lancet* 1993;339:753-770.

4. The GUSTO Investigators. An international randomized trial comparing four thrombolytic strategies for acute myocardial infarction. *N Engl J Med* 1993;329:673-682.



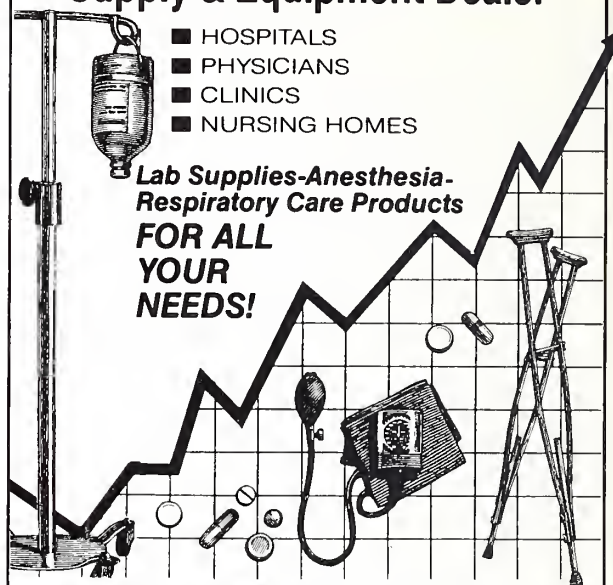
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State Medical Association Alliance**

Welcome 1994!

Another New Year! Another rash of resolutions? As the years pass by, my resolutions become fewer and fewer as the reality of impossible promises has taken hold more than once! However, the beginning of a new year affords us the perfect opportunity to reflect on our plans and accomplishments. So here I go again...I began my term as SDSMA Alliance President planning many ambitious projects, but now realize that the most important issues must be singled out and worked upon diligently to be assured of completion.

Commitment to AMA-ERF can never be forgotten or taken too lightly. With the passing of the Christmas season, many of us made our contribution via the Sharing Cards. What an easy way to send greetings to our colleagues and to support medical education! Have you remembered to buy your one hour (or more) of medical education at \$21.03 per hour? Anne Barlow has worked tirelessly making sure that South Dakota ranks high in the amount of total state contributions. We have helped thousands of medical students (and schools) over the past 40 years. We should be proud of this accomplishment!

Each district has been focusing on its own health project(s) and should feel satisfied with its accomplishments thus far. As domestic violence is a main concern of our national organization, I have asked each district to be certain that cards and/or stickers with information about their local shelter be distributed throughout their communities. Susan Tjarks, State Health Projects Chairman, has been helping to coordinate this effort. Our youth and their problems are also a major concern of the AMAA, as well as, the violence on TV. I have

been encouraged by the many efforts being made by alliance members across South Dakota to help combat these horrendous problems.

How many of us have found our one new federated member to join the Alliance? We were each challenged by our national membership committee to find one new member; time is running out, as dues must be turned in to the national office by the end of March for recognition this year. Our state membership chairmen, Mollie O. Krafka and Mary Ann Harris, have contacted each of our district membership chairs; have you responded?

No one is more concerned—and rightfully so—about health system reform than you physicians and us, your spouses. How many times have you contacted your legislators regarding health care issues? Your name should invoke instant recognition. If we do not resolve to make that extra effort now our cause will be lost; tomorrow is too late. The laws will be passed!

Probably the most difficult issue to combat is countering the negative image of the doctor. Have many newspapers carried favorable reports of the contributions of local doctors? Breaking through to the media is extremely difficult, yet so vitally important.

I thank the members of our alliance who have accomplished so much these past several months. We must always strive to make that additional effort to help just one more person. We are all part of a caring profession; we cannot react any other way. May each of you be blessed for your efforts!

Patti Herlihy

Internal Medicine

BC/BE internist to join two internist in expanding multispecialty group in Papillion, Nebraska, a family oriented, growing community. Papillion offers excellent schools, low cost housing, low crime, and a short commute to the wonderful cultural and recreational activities of Omaha including two medical schools, ballet, symphony, and opera. Competitive compensation, full benefits, shareholder opportunity, and affiliation with Bergan Mercy Hospital.

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Extenuating Circumstances

A periodic column of personal, ethical, and socioeconomic reflections on medicine.

The Family

Shawn J. Foley, MS IV, Tyndall, SD.

"What have I got myself into this time?", I asked myself as my attending told me to go back and talk to the family outside the ICU.

We had just seen a very tough case. A man suffered a heart attack causing loss of blood flow to his brain for more time than he should have. He had suffered a bad hypoxic injury to his brain. It happened on Thursday in a community north of here, and it sounded like everything had been done properly to avoid the very thing that had obviously happened. His body had deprived his brain of oxygen and fuel and it was severely damaged.

Monday was the first time I had ever seen the man. The whole ICU arsenal surrounded him. He had tubes, lines, buttons, lights, alarms, and one specific nurse to watch him day and night.

"Does he respond?"

"No."

"Does he posture?"

"He's starting to flexure posture a little with the left arm to deep pain. Nothing on the right side, or his legs. Babinski's are upgoing. He is still comatose."

These questions are very significant to this man. Right now his prognosis for recovery depends on whether or not he can show us his brain has any capacity to recover. The answers are very disturbing to anyone who knows about brain injury. Now, four days out, this man shows no indication that his higher level brain functions such as talking, eating by himself, or remembering anything will come back at all. His brain stem reflexes are slowly returning, but all this man may be able to do for the rest of his life is breathe. The answers can be extremely confusing and disturbing to a family who is watching, praying, and hoping for any sign at all that their father will come back to them.

Response is a key indicator in anyone suffering brain injury. If the patient can squeeze your hand, wiggle his toes, or blink his eyes, this can signal that something works above his midbrain, and this can indicate that there is hope for some sort of recovery. As day turns into night, and night into day, and day into night again, the hope starts to fade. The further one goes on with no active response, the more likely it is that the higher brain functions—talking, laughing, calculating, recognizing—will never return to that individual.

In my short four-year career as a medical student, I have had to examine and think about each system in the body, and then I've studied what losing those systems

means to a person. The human body is a wonderfully remarkable structure. It is composed of ten different systems, and it is interesting to talk to all the specialists in each of the different fields about his or her perspective of the body. The dermatologist says if you don't find the skin cancer, the person may die. The gastroenterologist says that without one's GI tract, one can not get adequate nutrition, and will starve to death. The pulmonologist says that if one stops breathing, the individual will cease to exist in a short amount of time. Each thinks their specialty focuses on the most important system of body.

What does the body view as the most important system? Well, that's kind of interesting. When the body is under stress or shock from severe infection, trauma, or heart attack, it does everything to keep fuel (glucose) and oxygen going to the brain. It will constrict blood flow to every other organ of the body to the point of suffocating them, just so it can keep nutrients and oxygen going to the brain. If the heart stops working, as in this man's case, no matter how hard it tries to pump, the blood will not circulate to the head. In this case, a person will be forever changed. Damage to any system or organ is bad, but the toughest cases are brain injuries. Heart problems and lung problems can be crippling, but for me damage to the brain seems especially devastating.

How does one talk to a family about this? How does one say to a family, "Your dad and husband may never talk to you again. He may never laugh. He may never eat by himself. Someone may have to wipe his butt, and he may pee in his pants all the time. I'm sorry. I don't want to tell you this, but the person you knew five days ago is not the same person you see now. I know you've heard of miracle recoveries, and I wish I could say I thought a miracle would happen for you, but I can't tell you that. I've got to try to make you understand that the man you see in that bed may be able to breathe, circulate his blood, but the things you associate with him—his laugh, his cry, the way he looks at and recognizes you—are probably gone forever."

I guess one lesson that medical students must learn is how to prepare families for bad news. I am never sure how I am supposed to do this, so what I do is listen. I went to that family outside the ICU and I listened to them. I listened to what they told me and I told them what I could. I tried to show as much concern as I could, and I felt so bad for them I could hardly take it. Learning is what students are supposed to do. I learned much from the family outside the ICU today. Thank you.

Council Meeting Highlights

Following are highlights from the two Council meetings held on September 24, and November 19, 1993.

1. **NEW COUNCILORS** — Three new councilors were seated: two representing the Seventh District (Sioux Falls), Drs Loren Tschetter and Walter Carlson, and one representing the Madison-Brookings District, Dr Richard Wake.
2. **STUDENT ATHLETIC EXAMS** — The Council affirmed policy calling for the personal involvement by the physician in the physical examination and certification of student athletes.
3. **SDSMA MISSION STATEMENT** — The following mission statement was adopted for SDSMA:
The South Dakota State Medical Association will:
 1. Serve as an advocate for quality health care for the citizens of South Dakota.
 2. Assure that health care is ethically delivered to patients by physicians throughout the geographic and economic diversity of South Dakota.
 3. Support the education of South Dakota's future physicians, and
 4. Provide a wide variety of innovative services for its members and employees.
4. **SODAPAC BOARD OF DIRECTORS** — Darlene Buhler from the Mitchell District Alliance was elected to the SoDaPAC Board of Directors.
5. **THIRD PARTY PAYORS AND MENTAL ILLNESS** — The Council adopted the following policy statement: Third party payors should provide coverage for substance abuse and other mental illnesses on the same basis as for any medical illness. Utilization of these services should not be arbitrarily limited by monetary limits, but appropriate utilization be monitored by peer review processes as in any other medical illness. Further, this statement will be distributed to the Health Insurance Association of America, Blue Cross/Blue Shield, DakotaCare, all major health insurers in South Dakota, the Governor's office, the Insurance Commissioner, the Health Care Task Force and mental health organizations in South Dakota.
6. **SDSMA 1994 LEGISLATIVE PROGRAM** — The following legislative program was approved for 1994.

Sponsored Bills:

1. Require use of seat belts.
2. Amend the cap on awards statute, making it applicable to corporations.
3. Place a \$250,000 limit on non-economic damages in professional liability cases.

4. Amend the physician assistant and nurse practitioner licensure laws to allow for their expanded role in providing health care to rural South Dakota under the supervision of licensed physicians in South Dakota and regulations of the State Board of Medical and Osteopathic Examiners.
5. Allow exemption from the physician-patient privilege when imminent bodily injury or death is threatened and in the case of potential injury due to the transmission of infectious disease, i.e. HIV.
6. Allow physicians to prescribe contraceptives to minors without parental consent, eliminating the contradiction between federal regulation and current state law.

Endorse:

1. Excise tax on all tobacco products and require the licensing of cigarette retailers and vending machines.

Oppose:

1. Licensure of radiologic technologists unless there is provision for two-tiered licensure.

7. **HONORARY LIFE MEMBERSHIP** — The following physicians were elected to honorary life membership:

Harold Frost, MD, Rapid City

Charles Monson, MD, Parkston

Clifford Gryte, MD, Huron (pending Dist 5 approval)

Joseph Cruse, MD, Rapid City

Duane Reaney, MD, Yankton

Robert VanDemark, Sr, MD, Sioux Falls (pending Dist 7 approval)

8. **MINNESOTA TAX ON SOUTH DAKOTA PHYSICIANS** — Information was received that a Minnesota judge ruled that he does not have jurisdiction, as no taxes have been collected and therefore he will not hear the case at this time. The Council authorized SDSMA to participate in an appeal along with the AMA and other North Central Conference states, and if necessary to take further action when South Dakota doctors receive tax bills from Minnesota.

The Council also received reports on health care reform, the shortfall for Medicaid funding and an update on DakotaCare. For more information, you can contact your local district councilors or the executive office. ■

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Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

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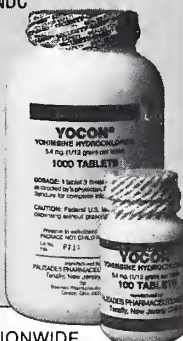
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

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References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 Credit Available Unless Otherwise Specified)

CME CONFERENCES

FEBRUARY 1994

- February 1 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- February 2 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Raymond G. Burnett, MD; Topic: Estrogen/Androgen Therapy in Menopause; Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- February 2 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Ronald F. Pfeifer, MD; Topic: Parkinson's Disease; Info: Connie Kleinsasser, USDSM - 339-6638.
- February 3 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Alan Morris, MD; Topic: Rheumatology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- February 3 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- February 3 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- February 3 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- February 3 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- February 4 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- February 4 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- February 4 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- February 4 **West River Internal Medicine Grand Rounds** - 2:00 pm, Fort Meade VA Hospital, Speaker: Alan Morris, MD; Topic: Rheumatology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- February 5 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: to be announced; Topic: to be announced; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- February 8 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- February 9 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Donna E. Sweet, MD; Topic: AIDS Update; Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- February 9 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- February 10 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- February 10 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- February 10 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiopulmonary Dept, 339-8171.
- February 10 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- February 10 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- February 11 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- February 11 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- February 14 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- February 15 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- February 16 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Clinical Pathology Conference, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- February 16 **Geriatric Forum** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- February 16 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced; Info: Larry Finney, MD, 331-3490.
- February 16 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Ed Picardi, MD; Topic: Adult Trauma; Info: Connie Kleinsasser, USDSM - 339-6638.
- February 17 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- February 17 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- February 17 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- February 17 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- February 17 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.

February 18	Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
February 18	Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
February 23	Geriatrics Grand Rounds - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
February 23	Internal Medicine Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
February 24	Trauma Grand Rounds - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
February 24	Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
February 24	Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
February 24-25	Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
February 24	PHS Perinatal Conference - Mitchell, SD. Info:
February 24	Pediatric Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
February 25	Morbidity/Mortality Conference - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
February 25	Tumor Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
February 25	Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
February 28	Tumor Board - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.

MARCH 1994

March 1	CPR Certification/Recertification - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
March 1	ACLS Renewal - 7.5 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
March 2	Topics in Clinical Medicine - Audio Teleconference Series ; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Richard D. Clarens, Pharm.D.; Topic: Marcolide Antibiotics; Info: Connie Kleinsasser, USDSM - 339-6638.
March 2	Internal Medicine Grand Rounds - 7:30 am, McKennan Hospital Auditorium, Speaker: A.H. Filipovich, MD, Topic: Diagnosis & Management of Primary Immune Deficiency, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
March 3	Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
March 3	Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
March 3	Cath Conference - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
March 3	West River Internal Medicine Grand Rounds - 2:00 pm, Hot Springs VA Hospital, Speaker: Dr. Thomas, Topic: Pulmonary, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
March 3	Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
March 4	Morbidity/Mortality Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
March 4	Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
March 4	Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
March 4	West River Internal Medicine Grand Rounds - 11:00 am, Fort Meade VA Hospital, Speaker: Dr. Thomas, Topic: Pulmonary, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
March 8	Breast Cancer Conference - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
March 8	PALS Renewal - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
March 9	Internal Medicine Grand Rounds - 7:30 am, McKennan Hospital Auditorium, Speaker: Eamonn M.M. Quigley, MD; Topic: Gastroenterology; Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
March 9	Dermatology Conference - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
March 9	Geriatrics Grand Rounds - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
March 10	Pediatric Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
March 10	Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
March 10	Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
March 10	Cardiac Cath Conference - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
March 10	Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
March 11	Pathology Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
March 11	Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
March 14	Tumor Board - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
March 15	Endorama (Endocrinology Conference) - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.

MISCELLANEOUS MEETING

FEBRUARY

- February 12 **3rd Annual Advances in Diagnosis and Management of Cardiovascular Diseases**, Omaha Marriott Hotel, Omaha, NE. Fee: \$25. CME credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800)-642-1095.
- February 17-20 **49th Annual Postgraduate OB/GYN Assembly**, Beverly Hilton Hotel, Beverly Hills, CA. Fee: \$250. 28 hrs AMA Category 1 credit. Contact: Dir of Med Educ, OB/GYN Assembly of Southern Calif, 5820 Wilshire Blvd, #500, Los Angeles, CA 90036. Phone: (213) 937-5514.

MARCH

- March 5-6 **4th Annual Anesthesiology Conference - Health Care and Reform**, Marriott Hotel, Omaha, NE. CME credit avail. Contact: Sally O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- March 10-11 **Family Medicine Today**, Holiday Inn, East St. Paul, MN. Fee: \$245. 13 hrs AMA Category 1 credit. Contact: CME, Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- March 12 **Colon and Rectal Diseases Conference**, Embassy Suites, Omaha, NE. CME credit avail. Contact: Sally O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- March 14 **Heartland Risk Reduction Society Meeting**, U of Neb Med Ctr, Omaha, NE. Fee: \$10. CME credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- March 17-18 **Critical Care 1994: Practical Approaches & Case Discussions**, St. Paul-Ramsey Med Ctr, St. Paul, MN. Fee: \$250. 13.5 hrs AMA Category 1 credit. Contact: CME Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.

APRIL

- April 14-16 **2nd Annual Diagnostic Dilemmas in Women's Health Care**, Omaha Marriott, Omaha, NE. Fee: \$200. CME credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- April 15-17 **44th Annual Postgraduate Symposium on Anesthesiology**, Ritz-Carlton Hotel, Kansas City, MO. Fee: TBA. 16.5 hrs AMA Category 1 credit. Contact: Mary Boyd, Off of Cont Educ, Kansas U Med Ctr, 3901 Rainbow Blvd, Kansas City, KS 66160-7108. Phone: (913) 588-4490.

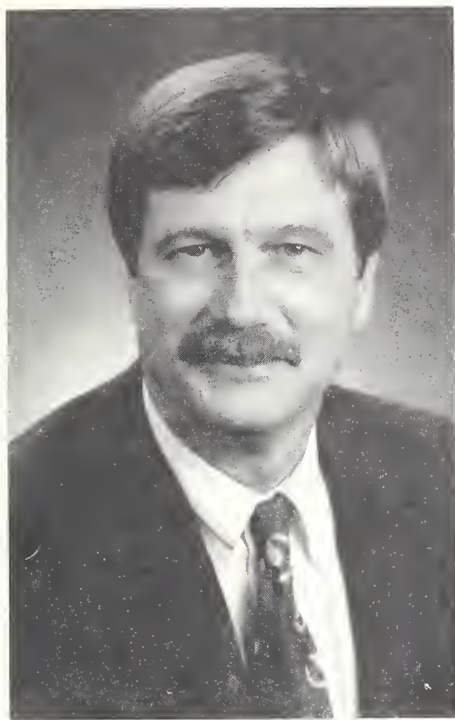


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Thomas L. Krafka, MD, President
South Dakota State Medical Association

I like you and most Americans, am appalled by the level of senseless violence in our country. Violence is now the #2 issue behind health care reform and may become the leading problem we will face in this decade. The AMA has entered the fray and, like the media, appears to be addressing individual symptoms instead of the whole problem.

Violence as a Public Health Issue is the title of Report 8 of the Board of Trustees of the AMA at the '93 interim meeting. This report began by explaining why violence is a health issue and why the AMA should be involved. Halfway through the report the subject changes to violence and hand guns and the recommendations at the end of the report are hand gun control issues. I went to the reference committee to point out that the conclusion of the report had nothing to do with the title and perhaps the report should be rewritten or retitled. Before I was able to give my comments, Dr McAfee (current president of the AMA) stood and gave his eloquent testimony in favor of the report. He stated that violence is the #2 issue that concerns people (behind Health Care Reform) when he speaks around the country. He has been convinced that hand gun control is a solution to this violence. Not being par-

ticularly eloquent and seeing the mood of the committee, I slunk away without giving my very logical (to me) arguments.

The series of articles in *USA TODAY* this week emphasized that hand gun control is being promoted as the way to decrease violence. It's important to understand (I didn't before New Orleans) that there is a growing number of people, including many of our colleagues (from other states, of course), who see no reason for the private ownership of guns or hunting. This group of fanatics now has the hysteria surrounding the increasing violence with guns to help convince otherwise reasonable people that gun control (or gun elimination) is the answer.

In western South Dakota, it is a much simpler issue. The words "gun control" means hitting what you aim at, and the problem isn't the guns but the people who use them. Violence is a social problem that, because of the frequent requirement for health care, becomes a public issue. If we are trying to decrease violence, we must get at the real reasons including: disintegration of the family, alcohol and drug abuse, lack of swift and adequate punishment for crimes, TV violence, poverty and lack of adequate education about, and training with, guns.

As physicians we have the opportunity to identify and modify behaviors that lead to violence. As community and opinion leaders, we need to help our elected officials see violence for what it is and not to focus on one method of perpetrating that violence. We also need to remind our representatives in Washington that the problems in South Dakota may not be helped by solutions for the problems of Baltimore or Washington D.C. Our spouses in the AMA Alliance are already involved in the "Campaign Against Family Violence" in our local communities. If you want to know more, call Mollie O. at 348-6976.

For those of you that don't know me well, I am an avid hunter, own and collect guns, have a federal firearms license, and belong to the NRA. Despite those prejudices, I am disturbed by the proliferation of cheap assault (macho) styled guns and will support some sort of controls, although I think they will do little good. I do believe there are a growing number of people who would like to see private gun ownership banned.



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Easing the Edges

My neighbor across the creek is a resident philosopher, although he identifies himself as "professor (retired of course)" by virtue of the many years he spent teaching for the law school. Over time, I have found him to be a font of wisdom with respect to his observations of both the law and medicine. Indeed, despite my protestations, he has regularly identified both similarities and common problems with the two professions. Recently, he announced to me (as he has in the past) that the cardinal sin of the lawyer is procrastination and, of the doctor, is lack of communication. As his advancing age and periodic health problems have placed him squarely in medicine's way, he speaks now as both a keen observer and reluctant participant. While his "procrastination" charge seems incontrovertible (based on my experience), the "communication" issue seems worthy of more reflection.

As it happens, his recent declaration came at a time when I was mulling over a favorite term, "easing the edges". My father-in-law, a retired carpenter, has explained to me that the term refers to rounding or beveling the edges of wood to give it a more finished and artistic touch. I find the term itself, "easing the edges", to be particularly musical and descriptive. Indeed, two summers ago when Francis introduced me to the term, we were on the North Shore of Lake Superior. I was so inspired by the "easing" concept that I wrote a bit of poetry describing Lake Superior as "washing the Promethean rock of her north shore, patiently easing the edges".¹

My more recent reflections on the term have been focusing on its possible applicability to the work of medicine. When my law professor neighbor provoked me with his procrastination/communication observation, I saw the editorial opening I had been waiting for.

Indeed, it seems to me that much of what we do in medicine proves to be easing the rough edges of illness and dismay for our patients. Frequently, we see patients at their emotional and physical lowest points. At these times, humans are often most vulnerable. Our medical methods are sometimes brutal, insensitive, and physically disrupting. Yet, as physicians, we do have special opportunities to compassionately impact on the lives of others. It seems to me that the good we achieve in giving emotional and physical comfort might be thought of as "easing the edges" for our patients.

All of us know that lack of communication by the physician is one of patients' regular complaints. Conversely, it is frequently disarmingly easy to gain a patient's trust and cooperation with even rudimentary efforts at human concern and communication. Most patients eagerly respond to simple, honest discussion and explanation. In my experience, even when patients are told that medicine does not know the answer and

that treatment options are unclear, such forthright explanations win the patient over to the therapeutic effort.

Oftentimes, lawyerly-like procrastination can actually be seen as another form of poor communication in the medical realm. My professor friend was distressed that, after having several tests done, days went by without a call from the physician or nurse as to the results. When I tried to explain to him that they probably hadn't called because the tests didn't add any new or important information, my explanations began to sound somewhat hollow to me. In reality (and in the professor's mind), it did not really matter so much what the tests had shown or not shown. He simply wanted the courtesy of an explanation after having undergone the physical discomfort and apprehension (not to mention expense) of this testing. While the medical office in question certainly was guilty of "procrastination" in not following up with him, it seems to me that really the fundamental problem revolves around attitudes of "communication".

The professor is not what I would consider a "difficult" patient. He is intelligent, interested in health care, and converses easily. It seems to me that the type of follow up and communication he longed for could be simply viewed as a form of "easing the edges" of his human vulnerability and dependency in the face of medical illness. His reaction to lost opportunities for good communication from health care members can, in my judgement, be perceived as a paradigm example of what many of our patients experience. Having an office organization that "sees to the basics" of human communication (without procrastination) can be greatly appreciated by patients. Indeed, I believe the gratitude of patients and families is frequently out of proportion to the effort it costs us to focus on such effective communication. Truly, our efforts in this regard can "ease the edges" for our patients and their families in ways that remain memorable and appreciated.

Jerome W. Freeman, MD
Editor

REFERENCES

1. Freeman J, "On the Lake at Castle Danger" from *Something at Last: Dakota Poetry and Sketches*, Pine Hill Press, Inc, 1993.

From a Legal Perspective

Child and Elder Abuse

Physicians have a legal and social responsibility to identify and report suspected abuse of children, the elderly and vulnerable adults. This responsibility may expose physicians to civil and criminal liability. Report any *reasonable* suspicion of abuse, in accordance with state reporting laws that extend either "absolute" or "qualified" immunity for physicians who report abuse.

Suspect abuse in children under 3 years old if:

- The caregiver of an injured child reports a change in the child (such as decreased mobility) instead of reporting an accident.
- The extent of the injury is more severe than the reported cause would indicate.
- A child under a year old suffers a fracture of the radius, ulna, tibia/fibula or femur.
- The child has a mid-shaft or proximal humerus fracture.

Suspect elder abuse when:

- Contusions or lacerations are not consistent with patient's or caregiver's explanation of the injury.
- Contusions or lacerations are found where people are not usually injured, such as the inner thighs.

- Injuries from different causes occur at the same time. For example, stab wounds *and* contusions.
- Symmetrical wounds or fractures are present.
- The patient has suffered a spiral, long-bone fracture from a "direct blow".
- Multiple bruises appear to be in the same evolutionary state.
- The patient is wearing blood-stained undergarments.
- The caregiver has provided improper levels of prescription medication.
- The patient is dehydrated or malnourished.
- Wounds or lesions are not properly attended.

Interview victims of suspected abuse in an area away from their families or caregivers. Keep victims safe from additional harm; remove the victims from caregivers or families if necessary. Tap into local resources for shelters and referrals.

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South Dakota Society Of Pathologists



Venous Stasis: Successful Outcome, and Symptomatic Relief in Patients Undergoing Linton Procedures

Patricia A. Mahoney, MD, and Robert E. Nelson, MD

ABSTRACT

A retrospective study of forty-one patients who had undergone subfascial ligation of perforating veins in the lower extremity, or Linton procedure, is presented. All procedures were performed by the same surgeon from 1971 to 1993. Two patients underwent bilateral procedures. There were 28 female patients and 13 males. Fifteen had a history of smoking. There was a history of previous thrombophlebitis in 21 patients, and 21 had a family history of varicosities and/or ulceration. Results of venograms and Doppler duplex studies, if done, were evaluated. Follow up procedures, such as sclerosing injections and skin grafts, were also noted. A total of 25 patients had subsequent sclerosing injections, one underwent debridement twice, and one received skin grafts, secondary to incisional skin necrosis. It was noted that there was no occurrence of wound infection or incisional necrosis when zinc oxide paste boots were applied and maintained post-operatively. All patients were contacted directly prior to the writing of this article to ascertain prevalence, severity, and circumstances of recurrence.

INTRODUCTION

Ulceration of the lower extremities has long been a concern of patients and physicians alike, because of its prevalence and the difficulty encountered in establishing satisfactory healing. The ulcer is the end stage of a longstanding problem, superficial venous hypertension. It has been previously established that the normal blood flow from superficial to deep venous systems via the perforating veins becomes disrupted in situations involving various predisposing factors, including deep vein thrombosis (DVT), history of phlebitis, obesity, pregnancy, and inherent venous valvular abnormalities which disrupt the normal functioning of the venous system by subsequent valve dysfunction and outflow obstruction.^{4,6} DVTs often begin in the soleus muscle, which has an extensive collection of venous sinuses devoid of valves, which drain via posterior tibial and peroneal veins. The muscles of the lower leg are invested with fascial sheathes; therefore, movement causes increased pressure within them, effectively squeezing venous blood

upward. Competent valves contain the blood within the deep system.³ Without adequately functioning valves in the perforating and deep veins, blood flows down the pressure gradient, from the deep into the superficial system, creating relative venous hypertension. These changes occur mostly in the lower medial leg, the site of most perforators, and the area subject to the greatest hydrostatic pressure. This increased pressure produces more edema in the extremity, with a concomitant further increased resistance to arteriolar pressure, resulting in stasis and ischemia and leading to ulceration. These changes result in the stigmata of venous stasis disease: brawny skin discoloration due to deposition of hemosiderin, scaly skin with red to purple pigmentation in areas of possible ulcer formation, dependent edema, varicosities, increased healing time, and eventual ulceration. Cockett also describes an "ankle flare" of finely dilated venules posterosuperior to the internal malleolus, which he found to appear prior to the ulcerations in his study.³ All patients in this

study had reached a severe stage of chronic venous hypertension.

The most commonly used procedure used to deal with severe varicosities and ulceration of lower extremities continues to be that set forth by Linton in 1938. This was a significant improvement over Homans' technique, which had previously been very popular. Homans, who first established the relationship between a history of DVTs and leg ulcers, developed a technique which failed to produce cosmetically acceptable results and rarely healed successfully.^{3,5} Both Linton and Homans based their theory and incisions on the anatomy discerned by the Russian anatomist von Loder in 1803.^{2,6} Homan recommended a wide excision of the ulcerated areas with dissection through the deep fascia until normal tissue was revealed; a "Thiersch" skin graft was immediately placed over the previously ulcerated area. Success depended upon assuring that normal tissue was present underneath the graft, with an adequate blood supply for graft survival.

Linton's management of venous stasis ulcers began long before surgery with extensive bed rest and moist compresses of boric acid solution, normal saline, or chlorinated soda until the ulceration healed. He noted that the granulation tissue was covered with a gray membrane, and exuded a thin, copious, purulent discharge; this fluid, when cultured, usually showed staph or strep. Any notable infection was dealt with by the appropriate use of antibiotics and postponement of surgery until healing was well established. Linton then proceeded to make three longitudinal incisions through the deep fascia, in order to expose the perforating and communicating veins for division and ligation.^{5,6} This technique has been subsequently modified; a single medical incision usually suffices, if carried far enough longitudinally for adequate exposure at the malleolus.^{1,2,5,7} Stripping of the lesser and greater saphenous veins may then be carried out if they are also found to be incompetent. Additionally, all patients were anticoagulated and received zinc oxide paste boots for hydrostatic support. This procedure resulted in significant improvement and relief from the dermatologic effects of the disease.^{5,6}

MATERIALS AND METHODS:

Between 1971 and 1993, 41 patients underwent sub-facial ligation of 43 limbs. There were 28 females and 13 males, ranging in age from 29 to 71 (mean 48 years). Twenty-one patients had a previous history of DVT, phlebitis, or trauma in the effected limb, and 21 had a significant family history for varicosities and/or ulceration. Eleven patients were homemakers, 26 had occupations requiring extensive periods of time stand-

ing, and 4 had sedentary lifestyles. Three patients had skin changes and ulcers, 10 had skin changes with varicosities, 12 had varicosities alone, 2 had varicosities with ulcerations, and 14 had skin changes, varicosities, and ulcers. One had undergone 4 previous surgical procedures by various other surgeons to correct her symptoms. Length of hospitalization ranged from 2-15 days, with a mean of 6 days. Patients who were not available for adequate follow up, or whose charts contained inadequate documentation, particularly in the areas of preoperative care, symptoms, and physical characteristics, were excluded from the study. Review of both hospital and clinic charts was carried out, and patients were then contacted to supply additional information not available in the charts. The following information was collected: date of procedure; age at time of procedure; gender; smoking status; general health; number of pregnancies; type of occupation; family history of varicose veins and/or ulceration; history of prior thrombosis or trauma; ulcers, varicosities, and/or skin changes; length of hospitalization; venogram or Doppler duplex studies; surgery complications; anticoagulation regimen; compressive apparatus used pre-, peri- and post-op, if any; time to healing post-operatively; recurrence (i.e. time after procedure, presence, severity, if associated with trauma); and follow up procedures (i.e. debridement, sclerosing injections, and skin grafts). Patients with varicosities had been encouraged to use support stockings, and those with ulcerations had been encouraged to wear zinc oxide impregnated gauze boots prior to the surgical procedures. Bed rest when possible, frequent limb elevation, and hygienic care of ulcers were discussed with the patients. Ulcers were allowed to heal before patients underwent the procedure. Areas of severely thrombosed varicosities were excised concomitantly. All identified incompetent perforators and communicating veins were divided and ligated sub-facially; incompetent saphenous veins were removed at the same time. In the perioperative and post-operative periods, patients were encouraged to wear compressive articles of some type, whether it was compressive stockings or elastic wraps, or zinc oxide boots. Only 5 patients refused this advice. Most patients continued using these compressive aids for at least three months post-operatively; the highest rate of success was seen with those patients who continued to use them long term.

All patients were seen in the clinic for reevaluation within 2 weeks of discharge, if not sooner. At this time anticoagulation status and wound healing were reassessed. Twenty-five patients required at least one session of sclerosing injections for remaining visible varicosities. One patient eventually received a graft

due to poor wound healing. One patient experienced discomfort from a stitch placed at the medial malleolus, which resolved with removal of the suture. Three patients developed a mild post-operative wound infection. Venous studies were not obtained in all cases due to hypersensitivity, patient preference, or unavailability of equipment. In those accomplished, the affected vessels and results showed much variability. Anticoagulation was usually carried out with the use of heparin and coumadin, and continued for at least six weeks; this was not done in a few patients who were young, healthy, and required relatively minor procedures, or the elderly who showed exaggerated response to the anticoagulation regimen. A sliding scale was routinely used to maintain protime (PT) in the given range of 16-22. Patients remained on bedrest for several days post-operatively, usually until they had received 5 days of coumadin therapy, and then were advised to maintain the habit of limb elevation when discharged. Patients either returned to clinic on a regular basis for follow up care after the procedure, or were followed by their local doctors with intermittent communication with the surgeon after initially establishing the ongoing treatment regimen (i.e. support aids, elevation, sclerosing injections). As previously stated, only patients who were followed long term and were available recently for collaboration of history and recurrence were included in the study.

RESULTS

There was no operative mortality. Hospital stay ranged from 2 to 15 days (mean 6 days). Follow up ranged from 2 weeks post-operatively in cases without complications or recurrence to 5 years in cases where intermittent sclerosing injections were required.

Early complications such as wound breakdown, loss of graft, or infection occurred in 7.3% of patients. Recurrence was seen in 24% of patients. Nine patients experienced very mild recurrence of superficial varicosities. The earliest incident of recurrence was at 3 years post-op, while most did not recur until nearly 11 years post-operatively. One recurred after 20 years of being nearly symptom-free. Two patients continued to exhibit skin variation, such as scaling and color changes. Ulcers recurred in 8 patients, or 18.6% of limbs. The ulcers recurred 3 to 20 years after the procedure, and all were much less severe than the original presentation. Two (25%) of recurrences were associated with extensive weight-bearing activities without limb elevation, while six (75%) of recurrences were associated only with moderate to significant trauma. All recurrences were healed in much less time than the original ulcers prior to the surgery. One (12.5%) of patients with recurrent ulceration required another operation for

relief, seven years post-operatively. All patients reported significant symptomatic improvement, stating that even if they experienced a trauma and subsequently ulcerated, the pain which resulted was much more bearable and the ulcer healed much more readily than prior to the procedure. One patient had undergone similar procedures 4 times prior to the procedure in question, all without success. Most patients wore compressive articles of some type peri- and post-operatively, with 19 complying for years with good results. Five patients were noncompliant with the recommended elevation and compressive stocking regimen.

CONCLUSIONS:

The Linton procedure for venous stasis, when carried out properly with a thorough evaluation and inspection for incompetent vessels, markedly improves the long term course of patients with superficial venous hypertension. This surgeon found the use of zinc oxide paste boots to be very helpful in successful healing of ulcers and in healing the surgical wound. Presumably this is due to the dermatologic and protective effects of the dressing, as well as its supportive nature. Another addition to Linton's procedure which was utilized in this series of patients was the administration of coumadin, which also apparently increased the likelihood of a favorable outcome. While in approximately 20% of cases there was eventual recurrence, these cases exhibited symptoms which were significantly less severe, the time required for healing markedly decreased, and generally did not recur for a number of years. All patients with recurrent symptoms, whether they experienced ulcers or varicosities, acknowledge their satisfaction with the years of freedom from symptoms, and their varying degrees of noncompliance prior to the recurrences. Examples of noncompliance included not using support garments, long periods of ambulation, standing without elevation of limbs, and trauma-inducing activities. Regardless of the presence or absence of recurrence, patients were satisfied with the improvement in their symptoms. Although further treatment procedures may be necessary and results improve with support garments, it is clear that the usual patient experiences a marked relief from symptoms and an improvement in ability to carry out usual activities following a carefully and properly performed Linton procedure.

ACKNOWLEDGEMENT

We would like to acknowledge the numerous people who assisted in the completion of this project, from the hospital, clinic, and medical records personnel, to the patients themselves. We especially would like to express our appreciation to John Ryan, MD for his assistance and advice in the preparation of this manuscript.

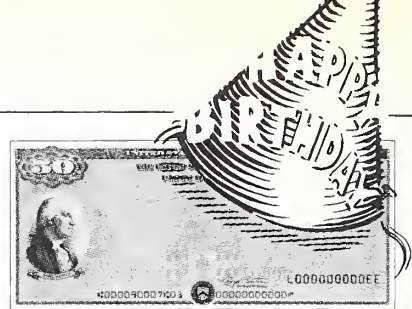
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REFERENCES

1. Browse N. Diseases of the Veins, 1988;225-227.
2. Cikrit D, et al: Surgical management of refractory venous stasis ulceration. *J Vasc Surg* 1988;7(3):573-578.
3. Cockett FB: The pathology and treatment of venous ulcers of the leg. *Brit J of Surg* 1955;43:260-278.
4. Darke E, et al: Venous ulceration and salphenous ligation. *Eur J Vasc Surg* 1992;6(1):4-9.
5. Linton RR: The communicating veins of the lower leg and the operative technic for their ligation. *Annals of Surg* 1938;107:582-593.
6. Linton RR: A new surgical technic for the treatment of postphlebotic varicose ulcers of the lower leg. *New Eng J Med* 1938;219:367-373.
7. Nesbit R: Subfascial ligation of perforating veins of the leg. *Am Surg* 1977;43(5):279-282.

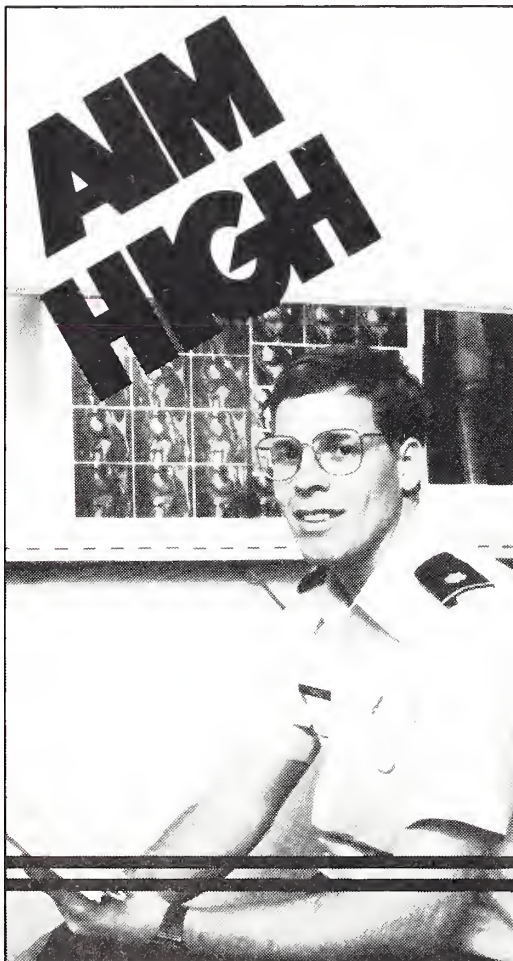


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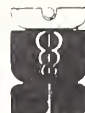
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Neuroleptic Malignant Syndrome: An Overview

J. Scott Persing, MS IV

ABSTRACT

Neuroleptic Malignant Syndrome (NMS) is a specific, potentially lethal disorder related to the usage of dopamine antagonists. The four clinical hallmarks associated with this syndrome are 1) hyperthermia, 2) muscle rigidity, 3) mental status changes, and 4) autonomic instability. NMS has been estimated to occur in 0.02% to 3.23% of patients receiving dopamine antagonist therapy. The wide range of incidence is probably related to the variability in diagnostic criteria, survey techniques, and patient populations.

Although the incidence of NMS is rare, the inherent mortality for patients developing NMS is significant. Fortunately, the mortality has gone from 25% before 1984 to 11.6% thereafter. This is probably related to greater awareness of the syndrome by the physician with early diagnosis and treatment and also to the advent of newer therapeutic modalities.

Current methods of treatment include withdrawal of the dopamine antagonist, control of the hyperpyrexia, administration of a dopamine agonist, and the administration of dantrolene. Electroconvulsive therapy has been advocated in patients unresponsive to the above therapies.

The reinstitution of dopamine antagonist therapy after an episode of NMS is possible. Specific protocols are available and are currently under revision by researchers. The current data indicate that the risk of a recurrence of NMS is about 30% if the protocol is followed.

Neuroleptic Malignant Syndrome (NMS), as the name implies, is a specific, potentially lethal disorder related to the usage of dopamine antagonists. Although it is a relatively rare disorder, its lethality dictates early recognition and intervention. This presents a clinical challenge in the context of a patient with multiple psychiatric and medical illnesses. Therefore, information from caregivers and relatives is pivotal in detecting slight changes in mental status that could indicate the start of the prodromal phase of this disease.

The reported incidence of NMS is anywhere from 0.02-3.23% of patients receiving dopamine antagonist therapy. The wide variation in incidence is a function of the variability in diagnostic criteria, survey techniques, and patient populations.¹ Some authors hold the position that NMS is a "spectrum disease",² ranging from mild cases of NMS to lethal catonia.

Recent studies indicate that the mortality from NMS has been declining. It has gone from 25% before 1984 to 11.6% thereafter.³ This is believed to have been

achieved through early physician recognition and treatment as well as newer therapeutic modalities. The probability that an individual patient will develop NMS seems to be related to his/her physiologic state at the time of administration of a dopamine antagonist. Therefore, the reinstitution of therapy with a dopamine antagonist may be successful after a full recovery from an episode of NMS. Specific protocols for the therapeutic rechallenge are under investigation.

Some individuals appear to have a predilection for NMS when treated with any dopamine antagonist while others develop the syndrome when exposed to specific dopamine antagonists. With our current state of knowledge this cannot be readily explained. Research into the areas of familial and genetic factors may provide insight as well as predictive value into treating the patient with recurrent NMS.

Certain antipsychotics have been associated with an increased likelihood of precipitating NMS. Haloperidol is the reported dopamine antagonist in nearly half of the cases of NMS.⁴ It is questionable if

this truly represents an effect of the specific medication or the frequency with which it is prescribed. It has been postulated that the high potency dopamine antagonists are more likely to precipitate an episode of NMS. This has been illustrated when reinstituting therapy in a patient with a previous episode of NMS. However, all types of dopamine antagonists have been associated with NMS including clozapine,⁵⁻⁷ prochlorperazine,⁸ and amoxapine.⁹ Table I includes a list of frequently prescribed medications that possess some dopamine antagonistic properties.

Table I
Partial Dopamine Antagonists

Metoclopramide
Hydroxyzine HCl
Promethazine HCl
Prochlorperazine Maleate
Amoxapine
Reserpine
Droperidol

Adapted from: Olmsted, TR: Neuroleptic Malignant Syndrome: Guidelines for Treatment and Reinstitution of Neuroleptics. Southern Medical Journal. 1988 July;81(7):88-891.

RISKS

In an effort to determine which patients are predisposed to developing NMS, several factors have been scrutinized as potential risks. Age, sex, environmental conditions, psychiatric diagnoses, and familial history have all shown to be unreliable indicators of increased risk. Factors that show a strong association with the development of NMS include: rapid initiation or increase of dopamine antagonist, previous brain injury, therapy with multiple agents (e.g. lithium), states of exhaustion, increased psychomotor activity, and dehydration.

The loading rate of dopamine antagonists seem to be an important factor. It appears that the rate of increase in dopamine antagonists and not an overdose of the medications *per se* potentiates NMS.¹ Rapid increases in dose, or starting regimens with relatively higher doses are associated more strongly with precipitation of an episode of NMS.

Patients with underlying brain injury such as mental retardation, organic brain syndromes, delirium tremens, AIDS-dementia, head trauma, or neoplastic processes have shown nearly a three fold increased incidence of NMS when treated with dopamine antagonists.¹⁰ Therefore, treatment with dopamine antagonists should be instituted with a high degree of caution in these patients.

Also, evidence is accumulating to support an increased risk of developing NMS during combination drug therapy, i.e., *lithium augmentation*.¹¹ In one study,

it was observed that up to 50% of the patients that experienced NMS were being concurrently treated with lithium.

These factors are, as of yet, merely associated with an increase in the incidence of NMS. No cause and effect mechanisms are inferred. A statistically significant number of patients have not been analyzed with respect to these variables to demonstrate true significance. These factors are detailed so that they may increase the physician's vigilance when administering dopamine antagonists. Thus, close monitoring of therapy while increasing dopamine antagonist medications or when using combination therapy as well as screening patients on the basis of hydration, agitation, and previous brain injury provides the tools for early diagnosis and treatment of NMS.

CLINICAL SIGNS AND LABORATORY EVALUATION

In some cases of NMS, a prodromal phase precedes the full blown syndrome. These include various neurologic and autonomic signs that are difficult to diagnose and are relatively unresponsive to conventional treatment. Early signs may include: changes in mental status, episodic tachycardia, tachypnea, hypertension, dysarthria, dysphagia, diaphoresis, sialorrhea,

Table II
Clinical Findings in NMS

Prodromal Signs/Symptoms Include

Changes in Mental Status
Episodic Tachycardia
Tachypnea
Hypertension
Dysarthria
Dysphagia
Diaphoresis
Sialorrhea
Incontinence
Low-grade Fever
Rigidity
Myoclonus
Tremor

Classic Signs/Symptoms Include:

Delirium
Fever
Tachycardia
Diaphoresis
Hypertension
Muteness
Rigidity
Tremulousness
Movement Disorder
Incontinence

Adapted from Rosebush PI, Stewart TD, Gelenberg AJ: Twenty Neuroleptic Rechallenges After Neuroleptic Malignant Syndrome in 15 Patients. Journal of Clinical Psychiatry 1989 August;50(8):295-298, and Caroff SN, Mann SC: Neuroleptic Malignant Syndrome. Medical Clinics of North America 1993 January;77(1):185-202.

incontinence, low grade temperatures, rigidity, myoclonus, tremor, or other extrapyramidal signs.¹² Table II includes several of the common findings in NMS.

As the classic syndrome unfolds, the four major signs of NMS emerge: hyperthermia, muscle rigidity, mental status changes, and autonomic instability.

Hyperthermia exceeds 38° in 87% and 40° in 40% of patients.³ It is usually accompanied by profuse sweating. If the hyperthermia cannot be rapidly reduced, it may result in permanent cerebellar or other brain damage.

Muscular rigidity is often associated with myonecrosis. The rigidity is global, often resulting in focal dystonias, sialorrhea, dysphagia, dysarthria, oculogyric crisis, and dyskinesias. Also common are coarse tremors and myoclonus, as well as other extrapyramidal signs.

Mental status changes can range from stupor to coma. Delirium and catatonic features are common, as are episodes of agitation.

Autonomic instability is most commonly manifested by sinus tachycardia. Oscillations of blood pressure and tachypnea are also reported. Other symptoms include nausea, vomiting, tremulousness, drooling, diaphoresis, and dysphagia.

Although no laboratory test will definitively confirm a diagnosis of NMS, a thorough laboratory evaluation coupled with an accurate history and physical examination will aid in excluding other illnesses. The most useful clinical test is the measurement of serum creatinine phosphokinase (CPK). It will show a dramatic increase throughout the course of an episode of NMS. It is released from muscles during rhabdomyolysis. Therefore, it is a measure of the amount of myonecrosis that has occurred secondary to rigidity, hyperthermia, and ischemia. It is also a good indicator of possible acute renal failure, since the kidney is often unable to tolerate the massive load of myoglobin that may be liberated. Renal failure is the most common cause of death during NMS. Some elevation in CPK may arise from agitation, intramuscular injections, exercise, trauma, convulsions, catonia, or medications. Urine examination for myoglobin is somewhat less reliable than serum CPK, possibly because it is dependent upon renal function.

Other less specific laboratory findings include leukocytosis, metabolic acidosis, hypoxia, hyponatremia, hypernatremia, or dehydration. CSF examinations are normal in 95% of the cases. Nevertheless, a search for meningitis or encephalitis is mandatory in all cases of suspected NMS.

Table III is a list of several disorders with signs/symptoms similar to NMS. These should always be kept in mind during the history, physical examination, and laboratory evaluation of a patient suspected of having NMS. In short, the work up for a patient with probable NMS should be focused to rule out the diseases listed in Table III.

Table III

Differential Diagnosis of Neuroleptic Malignant Syndrome

Primary Central Nervous System Disorders

Infections (Viral Encephalitis, AIDS, Postinfectious Encephalomyelitis)

Tumors

Cerebrovascular Accidents

Trauma

Seizures

Major Psychoses (Lethal Catonia)

Systemic Disorders

Infections

Metabolic Conditions

Endocrinopathies (Thyroid Storm, Pheochromocytoma)

Autoimmune Disease (Systemic Lupus Erythematosus)

Heat Stroke

Toxins (Carbon Monoxide, Phenois, Tetanus, Strychnine)

Drugs (salicyates, dopamine inhibitors and antagonists, stimulants psychedelics, monoamine oxidase inhibitors, anesthetics, anticholinergics, alcohol or sedative withdrawal)

Reprinted with permission from Caroff SN, Mann SC, et al: Neuroleptic Malignant Syndrome: Diagnostic Issues. *Psychiatric Annals* 1991;21:130-147.

One study indicates that some clinical findings may be more indicative of NMS than other acute medical illnesses. The mean maximum diastolic blood pressure was significantly greater in cases of NMS. Also, the incidence of cogwheeling, diaphoresis, disorientation, drooling, dysphagia, and rigidity was increased in the group diagnosed as having NMS.¹³

TREATMENT

Although there have been many recent advances in the treatment of NMS, identification of risk factors, early recognition, and discontinuation of the dopamine antagonist are of utmost importance. Supportive therapy such as fluid replacement and restoration of normal body temperature is the mainstay of treatment. Monitoring cardiac, respiratory, and renal functions is also important. In addition, symptomatic treatment, i.e., benzodiazepines, calcium channel blockers, or other muscle relaxants may also be initiated if required. Further therapy to be considered includes usage of dopamine agonists, dantrolene, and electroconvulsive therapy (ECT). A summary of current treatment protocol is found in Table IV.

The principle underlying the use of dopamine agonists originates with the theory that NMS is precipitated by blockage of the D₂ receptor. Use of agents such as bromocriptine or levodopa stems from the belief that reversal of this blockage will ameliorate

Table IV

Treatment of Neuroleptic Malignant Syndrome

Termination of the Dopamine Antagonist

Supportive Measures

Reducing body temperature

Treating secondary infections

Maintaining pulmonary, cardiovascular, and renal functions

Sedation

Dantrolene Sodium

1 to 3 mg/Kg/day IV, in four divided doses

May be increased to 10 mg/Kg/day IV in four divided doses

Oral maintenance doses range from 50 to 200 mg/day

Bromocriptine

2.5 mg to 10 mg PO tid initially

If no improvement in 24 hours, increase up to 20 mg PO qid

Therapy with Dantrolene or Bromocriptine or both is started immediately and continued until the patient's condition improves clinically or creatinine kinase levels return to normal.

Consideration of ECT

Adapted from: Epperly TD, McGlaughlin VG, Leo KU: A Hazardous Side Effect of Neuroleptics: Diagnosis and Treatment. *Geriatrics* 1990 August;45(8):58-62.

NMS. Unconfirmed studies have shown that usage of bromocriptine significantly reduces the time of recovery as well as mortality of NMS compared to supportive treatment alone.¹ There are less data concerning the use of levodopa, but early studies tend to show less of a reduction in mortality and recovery time than with bromocriptine.

The muscle relaxation achieved with dantrolene results in a reduction in spasticity, muscle metabolism, and heat generation. Its effect on skeletal muscle is to cause calcium to remain sequestered in the sarcoplasmic reticulum. This has an uncoupling effect on the excitation-contraction mechanism resulting in skeletal muscle relaxation. Early studies have shown it to have an effect similar to that of dopamine agonists with respect to recovery time and mortality.¹ Interestingly, combined usage of dopamine agonists and dantrolene have not proven to be any more efficacious in reducing mortality or recovery time than single drug therapy.

Use of electroconvulsive therapy (ECT) in the treatment of NMS has proven to be effective. It has also demonstrated an improvement in the underlying psychiatric disorder after the NMS has resolved. However, this form of treatment has shown no decrease in mortality compared to supportive therapy alone. Also, there appears to be a greater risk of cardiac arrhythmias in patients with NMS that undergo ECT.¹ Thus,

as in any form of treatment, it is important to judiciously consider the risks and benefits prior to implementation.

RECHALLENGE

After recovery from an episode of NMS, the issue of reinstituting treatment for the underlying psychotic disorder remains. In today's litigious society, this is a legal hotbed. Therefore, informed consent has become the golden rule: "Do unto others only with their approval." Consideration of an alternative therapy for treatment of the underlying psychiatric disorder is prudent. Lithium or carbamazepine may be used to control specific target symptoms.¹⁴ Often the persistence of psychotic symptoms dictates the repeated use of dopamine antagonists. When this is done within the context of specific treatment protocols, the risk of a recurrent episode of NMS is approximately 30%.¹²

In the reinstitution of a dopamine antagonist regimen in a patient with a history of NMS, certain modifications in therapy result in a decreased risk of recurrence. A period of two weeks should elapse between the resolution of NMS and reinstitution of the dopamine antagonist. During this period, reduction of any risk factors such as agitation or dehydration should be instituted. This may be accomplished with the use of benzodiazepines and IV fluid therapy respectively. When therapy is restarted, it should include a low dose of a low potency dopamine antagonist such as thioridazine.¹⁵ The patient should be monitored for any signs consistent with the prodromal phase of NMS. If they appear, early treatment of the NMS should be instituted including withholding the dopamine antagonist. Likewise, dosage increases need to be gradual to minimize the risk of NMS recurrence.

DISCUSSION

Since the occurrence of NMS is strongly related to the usage of dopamine antagonists or withdrawal of dopamine agonists, the neurotransmitter dopamine, or more specifically its decreased bioactivity, plays a role in the pathophysiology of NMS. This is supported by the efficacy of dopamine agonists in therapy. Thus, the clinical expression of NMS follows antagonism of the normal function of dopamine.

Interestingly, dopamine as a neurotransmitter in the central thermoregulatory site of the pre-optic area of the hypothalamus may be a factor in heat loss pathways. In fact, dopamine has shown to cause a decrease in the core body temperature of several species after a stereotaxic injection of dopamine or a dopaminergic agonist into the pre-optic area of the anterior hypothalamus. In addition, pretreatment with a dopamine antagonist resulted in no change in core temperature after the administration of dopamine agonists.¹⁶

Moreover, the decreased bioactivity of dopamine in the nigrostriatal tract, mesocortical pathway, and hypothalamic nuclei may involve rigidity, mental status changes, hyperthermia, and autonomic dysfunction.¹ There have been reports of NMS-like syndromes occurring during drug holidays for Parkinson's patients.

However, the normal function of dopamine is antagonized in all patients receiving dopamine antagonists, but the syndrome of NMS is a relatively rare occurrence. This leads to the implication of other factors such as different neurotransmitter systems, genetic predisposition, and the physiologic state of the patient during administration of a dopamine antagonist.

Some studies found a reduction in choline acetyltransferase in the cortex and limbic system indicating that cholinergic hypoactivity may be a predisposing factor in NMS. In other studies, a persistent reduction in the amount of 5-hydroxy-indolacetic acid, a serotonin metabolite, was found. Serotonin may be another factor in the pathogenesis of NMS. Although the participation of dopamine in NMS is indisputable, the view that NMS results solely from dopamine antagonism is simplistic in nature, and further investigation into the effects of other neurotransmitter systems in NMS is warranted.

SUMMARY

NMS is a relatively rare and lethal reaction to therapy with any medication having dopamine antagonistic effects. Ninety-six percent of the cases of NMS occur in the first 30 days of treatment.⁴ Some individuals are inherently susceptible while others have risk factors that are more transient. The basic treatment is early recognition of the syndrome and rapid withdrawal of the offending agent. Laboratory evaluation should be focused to exclude other possible diagnoses. Supportive therapy may be augmented with bromocriptine, dantrolene, and in limited cases, ECT may be used. Further use of dopamine antagonists is possible but only under a specific protocol with informed consent from the patient. If reinstitution is attempted, physicians, their patients, and the patients' family should be aware of the early signs and symptoms of NMS.

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REFERENCES

1. Caroff SN, Mann SC: Neuroleptic malignant syndrome. *Med Clin of No Am* 1993;77(1):185-202.
2. Gratz SS, Levinson DF, Simpson GM: The treatment and management of neuroleptic malignant syndrome. *Progress in Neuropsychopharm and Biological Psy* 1992;16(4):425-443.
3. Shalev A, Hermesh H, Munitz H: Mortality from neuroleptic malignant syndrome. *J Clin Psy* 1989;50(1):18-25.
4. Caroff SN, Mann SC: Neuroleptic malignant syndrome. *Psychopharmac Bull* 1988;24:25-29.

5. Anderson ES, Powers PS: Neuroleptic malignant syndrome associated with clozapine use. *J Clin Psy* 1991;52(3):102-104.
6. DasGupta K, Young A: Clozapine-induced neuroleptic malignant syndrome. *J Clin Psy* 1991;52:105-107.
7. Miller DD, Sharafuddin MJ, Kathol RG: A case of clozapine-induced neuroleptic malignant syndrome. *J Clin Psy* 1991;52(3):99-101.
8. Manser TJ, Warner JF: Neuroleptic malignant syndrome associated with prochlorperazine. *Southern Med J* 1990;83(1):73-74.
9. Baca L, Martinelli L: Neuroleptic malignant syndrome: a unique association with a tricyclic antidepressant. *Neurology* 1990;40:1797-1798.
10. Lazarus A: Neuroleptic malignant syndrome and preexisting brain damage. *J Neuropsych and Clin Neuroscience* 1992;4(2):185-187.
11. Keck PE, Pope HG, McElroy SL: Frequency and presentation of neuroleptic malignant syndrome: a prospective study. *AM J Psy* 1987;144(10):1344-1346.
12. Rosebush PI, Stewart TD, Gelenberg AJ: Twenty neuroleptic rechallenges after neuroleptic malignant syndrome in 15 patients. *J Clin Psy* 1989;50(8):295-298.
13. Sewell DD, Jeste DV: Distinguishing neuroleptic malignant syndrome (NMS) from NMS-like acute medical illnesses: a study of 34 cases. *J Neuropsych and Clin Neuroscience* 1992;4(3):265-269.
14. Olmsted TR: Neuroleptic malignant syndrome: guidelines for treatment and reinstitution of neuroleptics. *Southern Med J* 1988;81(7):888-891.
15. Susman VL, Addonizio G: Recurrence of neuroleptic malignant syndrome. *J Nervous and Ment Dis* 1988;176(4):234-241.
16. Paul GE, Landers DF, Newman T: Neuroleptic malignant syndrome. *Neb Med J* 1990;75(3):46-49.

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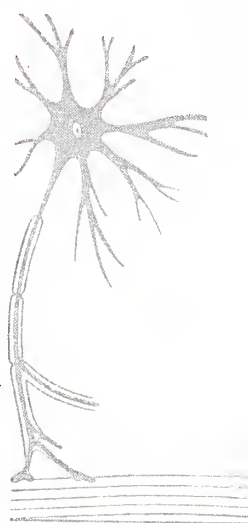
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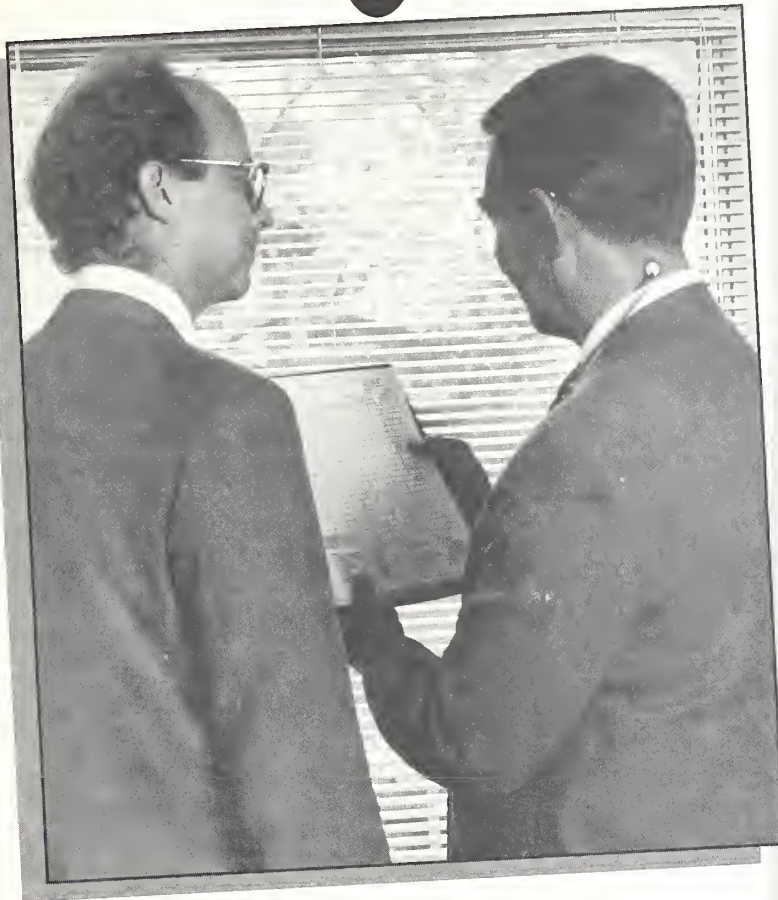
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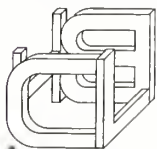
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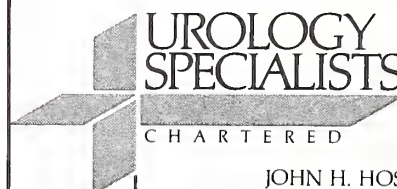
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**Patti Herlihy, President, South Dakota
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Domestic Violence

How can one begin to deal with such a terrifying issue as Domestic Violence? The more I read, the more speakers I hear, the more I observe our society, the more the reality of this epidemic touches my life; SOMETHING must be done to help these victims. The AMA and AMA Alliance launched the National Campaign Against Family Violence in 1991 to educate physicians on ways to identify and treat victims of violence.

Domestic violence, also known as partner abuse, spouse abuse, or battering, is one facet of the larger problem of family violence. Statistics are almost too incredible to believe: according to the FBI, a woman is beaten every twelve seconds in the U.S.; one out of every two American women will be beaten at least once in the course of an intimate relationship; over 4000 women are killed each year at the hands of their batterers; 22% to 35% of women who visit emergency departments are there for symptoms related to ongoing abuse.

For a woman to leave an abusive relationship is extremely difficult. She must make a major life change and her abuser will do everything in his power to stop her. A cyclic pattern often ensues, including repeated

battering and injury, psychological abuse, isolation and intimidation. Abuse often escalates in both frequency and severity. Domestic violence cuts across all racial, ethnic, religious, educational and socioeconomic lines.

Sadly, not until the costs of this health problem were recognized, did our government suddenly begin to see the situation for what it is. Annual estimates from reported domestic violence injuries in 1992 include \$44,393,700 total annual medical costs, 21,000 hospitalizations, 28,700 emergency room visits, and 175,000 days lost from work.

Domestic violence is a crime. Safety for victims of domestic violence and their children must be a priority. Since domestic violence became a national focus over two years ago, more than 250 programs have been implemented by medical alliances to address the problem. Lists of local victims' agencies have been compiled and posted in physicians' waiting rooms and restrooms. Clothing, toiletries and other necessities have been donated to abuse shelters, and transition homes have been established to house and provide counseling to victims and their children. Providing the patient with written information (including phone numbers) on legal options, crisis intervention services and community resources is most important. The AMA is working to ensure that education efforts are turning toward the nation's future physicians as well. New residency requirements and additions to medical school curricula that train physicians to recognize violence and abuse are being set up. Community-based training projects are also springing up to educate physicians and other health care providers.

Many states have increased the penalties for abusers. State health departments are beginning to develop protocols for health care providers. Since January 1992, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has required that all accredited hospitals implement policies and procedures in the ER departments and ambulatory care facilities for identifying, treating, and referring victims of abuse.

National organizations on domestic violence and many local and state battered women's programs have information available for use in physician offices. The National Domestic Violence hot line (800-333-SAFE) is a 24-hour resource to help women find local shelters. The National Woman Abuse Prevention Center (202-857-0216) publishes fact sheets on domestic violence, a quarterly newsletter, and a series of brochures. The American College of Obstetricians and Gynecologists (202-863-2518) publishes "The Abused Woman", a pub-

lication for patients. The Family Violence Prevention Fund (415-821-4553) provides direct services to victims and develops public policy and training programs. The AMA and AMA Alliance also publish a wealth of materials related to family violence and child abuse.

The recognition of this problem as a crisis, combined with the efforts of ALL of us (the AMA and AMA Alliance) to understand and help these victims, is only a beginning: given these facts, how can we not become involved?

John Pulley

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Correspondence

In the June 1993 issue of the *South Dakota Journal of Medicine*, Brian Kaatz praised the secondary benefits of the "Placebo Effect". I would like to reiterate Dr Kaatz's remarks with some additional information.

The term "placebo" has been used derisively by the medical profession because it implied deceit or fraud on the part of the physician. This can be partially explained by the origins of the word.

The term was used in medieval times for professional mourners at the grave-site who repeated the Latin "Placebo Domino" (I shall please the Lord) over and over again. The "I shall please" was an accurate translation, but because the mourners were paid professionals, their intent was interpreted as deceitful and their grief was false. Placebos have no physiologic effect, and their use is felt to be deceitful and false. The reason for this thinking is the fast held belief that drugs or interventions that effect only the mind can have no direct physiologic function.

The mind and body were separated 400 years ago when the mathematician-philosopher, Renae Descartes (1596-1650) designated the body and all that could be mathematically equated as "scientific", and left the mind, spirit and soul to the theologians and philosophers. It has only been in the last few decades that we have realized the mind plays a physiological function in the production of endorphins and in the allergic reaction. This was emphasized in a recent book and TV series on *Healing and The Mind* by Bill Moyers.

To enhance the "Placebo Effect", the doctor-patient relationship must be strengthened. This can be accomplished by **listening** carefully to the patient's history, by **touching** the patient, be it palpation, percus-

sion, or a friendly handshake, by making a **diagnosis**, or giving the patient a name for his/her malady, and by offering an **intervention**.

Informed consent need not be deceitful to explain the intervention. There is nothing wrong in telling the patient that the medication they are about to receive has no physiologic effect on the disease process other than the fact that 30% - 40% of the patients seem to get relief. The intervention could also be simple advice on changing the patient's lifestyle.

To be avoided are interventions that may do the patient harm. The maxim *Primum non nocere* (above all do no harm) is one of the primae fascia rules of medical ethics. An example of the intervention gone awry many years ago was when the treatment for low back pain consisted of the burning (combustion) of sulphur on the back. This was felt to be curative as no one ever returned for the second treatment! A modern day version of this was ligation of the internal mammary artery, popular in the 1950's for the relief of anginal pain. Later in a double blind series it was found that patients had even better relief from the skin incision without ligation of the artery. So each intervention must be evaluated as to its beneficence (does it help?), and its maleficence (does it do harm?).

But to deny the placebo effect because it is not "scientific" is wrong. We, as physicians, are not merely conduits through which pills and procedures pass. We must also **speak, touch, console, and empathize** with the patients for relief of symptoms.

Sincerely,
H. Phil Gross, MD
Ross, CA

Antiepileptic Drugs - The Drought is Over

James E. Powers, Pharm.D, Brookings

With the addition of felbamate (Felbatol) and gabapentin (Neurontin) to the antiepileptic drug (AED) armamentarium, a new era of drug treatment for epilepsy seems to be at hand. Felbamate, a relative of meprobamate, was the first new compound to be marketed for the treatment of epilepsy since valporic acid was approved in 1978. Gabapentin was released in January 1994 and will be used in patients who suffer refractory partial seizures with or without secondary generalized seizures. The approach being taken in the new strategies for antiepileptic drug therapy seems to be two-fold. The first is designer drugs which are neurotransmitter receptor specific and will increase or decrease the amounts of neurotransmitter and the second is drug release system modifications.

Several of the new drugs are designed to affect gamma-aminobutyric acid (GABA) receptor sites. GABA is an inhibitory neurotransmitter and early studies have linked it with the benzodiazepine receptors in the brain but, as with serotonin receptors, different GABA receptors are being defined which will have ramifications in drugs such as hypnotics and antiepileptics.

The just released gabapentin was designed to cross the blood brain barrier and increase the supply of GABA but, to the surprise of researchers, upon reaching the brain, did not bind to the GABA receptor. This suggests a gabapentin receptor and neurotransmitters or substances that researchers are not aware of as yet.

Two other designer antiepileptic drugs which target GABA are tiagabine and vigabatrin. Tiagabine specifically inhibits the uptake of GABA, much like the antidepressant serotonin uptake inhibitors function, and vigabatrin, which prevents the enzymatic breakdown of GABA.

Lamotrigine is a antiepileptic drug which inhibits the release of excitatory neurotransmitters such as glutamate and aspartate. The function of this drug would be to decrease excitation and increase brain inhibition, thus preventing or decreasing seizure activity.

Formulation changes in older antiepileptic drugs are also in the "pipe line". Tegretol (carbamazepine) may become available in a slow release formulation. Slow release formulations can limit peak-trough adverse

reactions and improve patient compliance by decreasing the number of daily doses needed. A viscous solution of diazepam for rectal administration is in late phase III studies. This solution can be given by home care providers when patients have acute repetitive seizures. Fosphenytoin is a water-soluble, parenteral, phenytoin prodrug. Studies indicate it will be used in the treatment of status epilepticus.

It is estimated that 80% of patients on AED drugs can be managed on monotherapy and the remaining difficult to control 20% have new hope for improved seizure control and fewer adverse reactions as the newer AED become available.

The drought of antiepileptic drugs is over and a new dawn of epileptic treatment is at hand.



Edited by Brian Kaatz, Pharm.D.



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Marshall Co. Medical Clinic

PO Box N

Britton, SD

Lowell D. Smith, MD

Prairie Lakes Hospital

400 Tenth Ave

Watertown, SD

Edward Wegner, MD

400 Tenth Ave, NW

Watertown, SD

William J. Wengs, MD

Central Plains clinic

1100 E 21st St

Sioux Falls, SD

David Withrow, MD

Yankton Medical Clinic

PO Box 706

Yankton, SD

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This Is Your Medical Association

Dr John B. Slingsby, 72, Rapid City died at his home. He was born May 29, 1921, in Fargo, ND. He graduated from Fargo Central High School. He entered the Army in 1941, serving in the 164th Infantry. He was wounded at Guadalcanal in 1942, later receiving an honorable discharge. He graduated in 1946 from North Dakota State University with a bachelor of science degree. He went on to receive his medical degree from the University of Rochester School of Medicine in Rochester, NY, in 1949. After a two-year internship at Strong Memorial Hospital in Rochester, he completed a three-year residency in obstetrics and gynecology at Colorado General and Denver General hospitals.

He married Dorothy Myhra in 1946, in Fargo. They moved to Rapid City in 1953, where he practiced for 35 years before retiring in 1988.

He was a member of the Black Hills District Medical Society, the South Dakota State Medical Association and the American Medical Association. He served as chairman of the 6th District of the American College of Obstetrics and Gynecology. He was a member of First Congregational Church and the Kiwanis Club. He had an avid interest in ham radios and electronics. He had achieved life master recognition in duplicate bridge.

Survivors include his wife, Dorothy, Rapid City; two daughters, Diana Linda Simon, Steamboat Springs, Colo, and Barbara Slingsby, Alexandria, Va; one son, J. Geoffrey Slingsby, MD, Rapid City; one brother, Jim Slingsby, San Diego, Calif; and four grandchildren.

Jerry A. Zanka, MD, 79, Rapid City, died at the Rapid City Regional Hospital. He was born in 1914, in Hribiny, Czechoslovakia. He attended schools in Hribiny and graduated from Charles University Medical School of Prague and came to the United States in 1948.

He married Mary A. Dickman in 1950, in Toledo, Ohio. They moved to Rapid City in 1959, where he specialized as an eye, ear, nose and throat physician until his retirement in 1985. He was a charter member of South Canyon Lutheran Church in Rapid City, a Fellow of the American College of Surgeons, a member of the Ninth District Medical Society, and the South Dakota State Medical Association. He was an avid hunter and fisherman.

Survivors include his wife, Mary, Rapid City; one son, John, and his wife, Cindy, Rapid City; one brother, Stan, Doudleby, Czech Republic; three grandchildren.

Dr. William J. Perry, 81, Rapid City, died at Rapid City Regional Hospital following a brief illness.

He was born in Denver, Colorado, on March 12, 1912 and raised in San Diego, California. After graduation from Stanford Univ in 1934, he received his MD degree from Northwestern Univ Medical School in 1937. He attended the Graduate School of Medicine, Univ Pennsylvania, earning a master of science (surgery) degree prior to becoming a Fellow of the American College of Surgeons in 1954, and also certification by the American Board of Surgery.

Dr Perry served as a staff surgeon in Army Station, regional and general hospitals from 1941 to 1946, three years overseas service during World War II. Following completion of surgical residency training at Hines Veterans Affairs Medical Center in Chicago, he became a career Veterans Affairs surgeon, ultimately serving as chief of surgery at Fort Meade Veterans Affairs Medical Center from 1960 until his retirement in 1982.

Dr Perry was married to Carol Berget at Fort Meade Chapel in 1961.

At the age of 70, he moved to Rapid City after a 40-year career in federal service. He was the author of four medical publications as well as an innovator in clinical medicine; he was a proponent of bringing first-class medical care to rural America; he established the surgical service and outpatient clinics at Fort Meade and helped to convert this purely psychiatric hospital of the fifties to the busy general medical, surgical and psychiatric Veterans Affairs Medical Center of today.

As assistant professor of surgery at the USD School of Medicine, Dr Perry brought medical students to western South Dakota for part of their training. He was an advocate for community physical fitness and preventive medicine.

He was a Scottish Rite Mason, Shriner, past president and secretary of the Sturgis Rotary Club. He was a long-time member of the Black Hills District Medical Society and the South Dakota State Medical Association.

He is survived by his wife, Carol, Rapid City; one daughter, Kathryn Perry-Ogston, Lopez, Wash; one son, Edward Williamson Perry, Kerville Tex; one stepdaughter, Pamela Sorota, Columbia, Md; three stepsons, Dr Bruce Berget, Crown Point, Ind, Paul Berget, Minneapolis, Minn, William T. Berget, Minneapolis; and eleven grandchildren.

Dr John Donald Bailey, 87, a longtime Rapid City physician, died at his home. He was born in 1906 in Atlantic, Iowa. He graduated from Atlantic High School and received his bachelor of science degree in 1928 from Monmouth College in Monmouth, Ill. He received his medical degree in 1932 from the State University of Iowa College of Medicine in Iowa City. In 1933, he completed a one-year internship at Robert B. Green Memorial Hospital in San Antonio, Texas. He was a pediatric resident at Children's Hospital in Los Angeles, Calif, in 1934. He was appointed to the Army Medical Corp in 1934. From 1934 to 1936, he was camp surgeon with the Civilian Conservation Corp in the Black Hills. He began his medical practice in Rapid City in 1936.

He was certified in pediatrics by the American Board of Pediatrics in 1945; he became a Fellow in the American Academy of Pediatrics in 1946. He was a member of the South Dakota Chapter of the American Academy of Pediatrics and the South Dakota State Medical Association.

He married Lucille McKitrik at Florsville, Texas in 1932, and she died in 1948. In 1951, he married LaVonne Kersten of Keystone in Rapid City. LaVonne died in 1961.

In 1946, he started the West River Mental Health Center with Dr. Thomas Fox, psychiatrist. He served on the board of the Mental Health Center for more than 20 years. He was one of the founders of Rapid City Medical Center in 1946; he ran the West River Polio Center at St. John's Hospital in Rapid City; he was a consultant to the Indian Service at Rosebud and Pine Ridge reservations and because of assistance to the Indian community he was inducted as an honorary member of the Oglala Sioux Tribe. In 1960, he attended the White House Conference on Children and Youth in Washington, D.C.; he was a member of the Governor's Committee on Children and Youth from 1961 to 1965; he served on the board of the Rapid City Boys Club for over 25 years.

He received the C.B. Alford Award of the South Dakota Department of Health in 1979; he had been a member of the Rapid City Rotary Club since 1938; and he also received the Paul Harris Fellow Award in 1987. He had been a member of the First Presbyterian Church since 1936. Dr Bailey was a pioneer pediatrician in Rapid City, practicing medicine with the old values and making house calls. He delivered more than 2,000 babies in the Rapid City community. He retired from his practice in 1984.

Survivors include four sons; James W. Bailey of Rapid City, J. Patrick Bailey of Herndon, Virginia, Michael B. Bailey of San Leandro, California, and Robert M. Bailey of Cannon Beach, Oregon; three daughters, Phyllis A. DeGarlais of Shelley, Idaho, and Cathy Dwyer and Julie M. Lux, both of Rapid City; 15 grandchildren: four great-grandchildren; and a special friend, Elaine Dean of Rapid City.

Richard Eugene Stewart, MD, died at his home in Boulder Canyon, near Sturgis. He was born in Rockford, Illinois in 1952. At the age of ten, he moved with his parents to California. When he was 21, he moved to Yankton and attended the Univ of South Dakota, where he received his doctor of medicine degree. He completed an internal medicine residency at Sacred Heart Hospital in Yankton.

He married Kathy Kribell at Simi Valley, California in 1973.

He was a member of St Francis of Assisi Church, the Knights of Columbus, the South Dakota State Medical Association, the Ninth District Medical Society and the AMA.

Survivors include his wife, Kathy, Boulder Canyon; three children, Jennifer, Rebecca, and Larissa, all at home; his parents, Mr and Mrs Thomas Stewart, Moorpack, Calif; three brothers, Jim Stewart, Simi Valley, Calif; Jerry Stewart, Virginia and Mike Stewart, Moorpack; and one sister, Elaine Brown, California.

Delbert Brown, MD, 61, Sioux Falls, died of a heart attack at his home. Dr Brown was born April 26, 1932 in Lehi, Utah. He graduated from Union College in Lincoln Neb, and received his medical degree from Loma Linda University in Loma Linda, Calif, in 1958. He completed a rotating internship at Porter Memorial Hospital, Denver, in 1959; practiced general medicine and surgery from 1959-1965 in Springfield, Mo and Baton Rouge, La. He then completed a three-year residency in psychiatry at Harding Hospital, Worthington, Ohio.

He practiced medicine in Colorado, Missouri, Louisiana, Ohio, Illinois and Florida before accepting a position with University of South Dakota School of Medicine in 1982. He joined the school as an assistant professor of psychology and became an associate professor in 1986. He also served as the chief of psychiatry at the Royal C. Johnson Veterans Memorial Hospital. He was a consulting psychiatrist at the South Dakota State Penitentiary; McKennan Hospital; Sioux Valley Hospital; Charter Hospital; American Baptist Seminary and Sioux Falls Psychological Services.

He was a member of the American Medical Association; the South Dakota State Medical Association; he served as president of the South Dakota Psychiatric Association and was a fellow of the American Psychiatric Association and he was active in the Seventh Day Adventist Church.

Survivors include his wife; three sons, D. Earl Brown, Las Vegas, Nev; Kirk, Harker Heights, Tex; Nedd, Glendale, Calif; two daughters, Mrs. John (Jill) Rasmussen, Dougard, Denmark; Mrs Gerrot (Beth) Pickhardt, Braunen, Austria; nine grandchildren; one brother, Jess, Bountiful, Utah.

Stephen Marion Brzica, MD, 76, of 2600 S. Fourth Ave, died at McKennan Hospital in Sioux Falls. He was born in 1917, in Terry. He grew up in Lead, where he graduated from high school in 1935. He graduated from the University of South Dakota in 1939 with a bachelor of art degree. He completed his first year of medical school at the University of South Dakota (USD) before serving in the Army from 1940 to 1945. He received a Bronze Star for his efforts in the Battle of the Bulge.

He married Mary Jean Holmes in 1942, in Fort Snelling, Minnesota. After his discharge, they returned to SD where Dr Brzica received his bachelor of science degree in medicine, at USD in 1948, and went on to attend the University of Nebraska and obtain his medical degree in 1950. He completed a one-year internship at Madigan Army Hospital in Fort Lewis, Wash, in 1951. He practiced medicine in Worthington, Minnesota from 1951 to 1953, when he moved to Sioux Falls where he practiced family medicine until 1987. During the course of his career, he delivered more than 5,000 babies.

He was former chief of staff at McKennan Hospital; chief medical officer for Disability Determination Unit of Social Security for the state of South Dakota; and a vocational rehabilitation consultant. He was a member of St. Mary's Catholic Church; American Medical Association; South Dakota Medical Association; past president of the Seventh District Knights of Columbus; YMCA; Minnehaha Country Club; Friends of Public Broadcasting; DAV; American Legion Children's Home Society; the USD and Nebraska Alumni Association; and the board of governors of the University of Nebraska.

Survivors include his wife, Mary Jean of Sioux Falls; two sons: Stephen Jr of Bloomington, Minn; and Michael of Sioux Falls; two daughters: Mrs Tom (Ann) Davey of Omaha; Mrs Mike (Catherine) Bruggeman of Lincoln, Neb; 12 grandchildren; one great-grandchild; and one brother, R.P. of Long Boat Key, Fla.

South Dakota physicians who have recently completed requirements to be eligible for recertification by the American Board of Family Practice are: **Richard Hieb, MD**, Brookings; **Kathryn Ann Barrett, MD** and **Egon Dzintars, MD**, both of Rapid City; **David K. Erickson, MD**, Dell Rapids; **Dennis D. Ries, MD**, Freeman; and **Mary Beecher, MD**, Madison. **Dr Jeffrey Pinter** of Winner has been named diplomate of the American Board of Family Practice by passing the certification exam.

Two Huron physicians, **Dr Howard Saylor** and **Dr Shrirang Lele**, have been honored for their support of the Huron Fire Department's education program. Dr Saylor, Dr Lele and several other business men from

Huron received awards for their contributions to promoting fire safety.

Dr G. Robert Bell of De Smet has been presented the 1993 Director's Rural Health Achievement Award. This award is given in recognition of a person who has shown outstanding leadership and dedication for the betterment of rural health care.

Dr Bell received this award at the South Dakota Rural Health Conference in Rapid City. He has served the De Smet community nearly 40 years. He was an early pioneer in rural health network development in his supervision of a physicians assistant in Bryant for more than 10 years. He is also an active teacher and faculty member of the University of South Dakota School of Medicine.

At the annual meeting of the South Dakota Osteopathic Association held in Pierre, **George W. Jenter, DO**, a general practice physician in Sturgis, was elected president. **Dr Charles Lewis**, Sturgis, and **Dr Stephen Head**, Mobridge, were both elected to the board of trustees and **Tad Jacobs, DO**, from Flandreau, was elected to the board of directors.

Charles (Scotty) Roberts, MD, received the Brookings Chamber of Commerce's Gip Nolan Community Service Award. The award was established in 1957 and renamed in 1983 for Gip Nolan, a long-time community activist. Dr Roberts has been instrumental in the organization of numerous community organizations, including the Brookings Hospital Blood Bank, Brookings Area Guidance Center, Brookings Area Reachout Team, Hospice Program, Brookings Area Betterment, Brookings Duplicate Bridge Club, Brookings Wellness Program and the Volunteer Service Bank, of which he is now chairman. He was also involved in establishing the first coronary care and cardiac rehab units in the state.

Jerome K. Howe, MD, Mitchell, has received notification of his acceptance into Fellowship in the American College of Surgeons.

Dr Gregg Drabek, a Rapid City surgeon, recently passed the certification exams and is now board certified by the American Board of Surgery.

Gerald Turner, MD, recently completed his American Board of Internal Medicine certification examination. He is now board certified in both internal medicine and pediatrics.

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 Credit Available Unless Otherwise Specified)

CME CONFERENCES

MARCH 1994

- March 1 CPR Certification/Recertification - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- March 1 ACLS Renewal - 7.5 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
- March 2 Topics in Clinical Medicine - Audio Teleconference Series; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Richard D. Clarens, Pharm.D.;Topic: Marcolide Antibiotics;Info: Connie Kleinsasser, USDSM - 339-6638.
- March 2 Internal Medicine Grand Rounds - 7:30 am, McKennan Hospital Auditorium, Speaker: A.H. Filipovich, MD;Topic: Diagnosis and Management of Primary Immune Deficiency;Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- March 3 West River Internal Medicine Grand Rounds - 2:00 pm, Hot Springs VA Hospital, Speaker: Dr. Thomas;Topic: Pulmonary;Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- March 3 Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- March 3 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- March 3 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- March 4 Morbidity/Mortality Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- March 4 Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- March 4 Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- March 4 West River Internal Medicine Grand Rounds - 11:00 am, Fort Meade VA Hospital, Speaker: Dr. Thomas;Topic: Pulmonary;Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- March 8 PALS Renewal - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
- March 8 Breast Cancer Conference - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- March 9 Geriatrics Grand Rounds - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- March 9 Internal Medicine Grand Rounds - 7:30 am, McKennan Hospital Auditorium, Speaker: Eamonn M.M. Quigley;Topic: Gastrointestinal Dysfunction in the Patient with Neurological Disease; Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- March 9 Dermatopology Conference - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- March 10 Cardiac Cath Conference - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- March 10 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- March 10 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- March 10 Pediatric Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- March 10 Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- March 11 Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- March 11 Pathology Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- March 14 Tumor Board - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- March 15 Endorama (Endocrinology Conference) - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- March 16 Internal Medicine Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Jack Oppenheimer, MD;Topic: Thyroid Disease;Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- March 16 Geriatric Forum - 7:30 am, East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- March 16 CPC Wednesday Noon Conference - 12:00 noon, 4th Floor Conference Rooms, to be announced,to be announced,Info: Larry Finney, MD, 331-3490.
- March 17 Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- March 17 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- March 17 Cath Conference - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- March 17 Neuroscience Grand Rounds - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- March 17 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- March 18 Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- March 18 Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- March 23 Geriatrics Grand Rounds - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- March 23 Internal Medicine Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Walt Wilson, MD;Topic: Empiric Antibiotic Therapy;Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- March 24 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

- March 24 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- March 24 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- March 24 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- March 24 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- March 25 **Tumor Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- March 25 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- March 25 **Morbidity/Mortality Conference** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- March 28 **ACLS Instructor** - McKennan Hospital, Sioux Falls. Info: Kathy Miles, 339-8096.
- March 28 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- March 29-31 **ACLS Provider** - 19.75 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
- March 30 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Donald Culver, MD; Topic: Substance Abuse; Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- March 31 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- March 31 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- March 31 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

APRIL 1994

- April 1 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 1 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- April 1 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 1 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- April 5 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 6 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Gerald F. Moore, MD; Topic: An Overview of Rheumatic Syndromes; Info: Connie Kleinsasser, USDSM - 339-6638.
- April 6 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 7-8 **Trauma Symposium** - Ramkota Inn, Sioux Falls; Info: Kathy Miles, 339-8096.
- April 7 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- April 7 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 7 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 7 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 8 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 8 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 11 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- April 12 **PALS Instructor** - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
- April 12 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- April 13 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- April 13-14 **PALS Provider** - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
- April 13 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 14 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 14 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- April 14 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 14 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 14 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- April 15 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

MISCELLANEOUS MEETINGS

MARCH

- March 7 **Obstetrical Complications, OB Outreach Program**, Offutt Air Base, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D., Asso Dean, Creighton Univ, CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- March 10-11 **Gastrointestinal Surgery: Refresher Course and Update**, Ritz-Carlton Hotel, St. Louis, MO. Fee: \$300. 16.75 hrs AMA Category 1 credit. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.

- March 11 **Rhythms of Life and Death: A Primary Care Approach to Arrhythmia Management**, Hilton Inn, Rapid City, SD. AAFP & AMA Category 1 credit avail. Contact: Lorna Ogle, Rapid City Regional Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- March 12 **Colon and Rectal Diseases Conference**, Embassy Suites, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D., Asso Dean, Creighton Univ, CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- March 18 **Asthma**, Ritz-Carlton Hotel, St. Louis, MO, AMA Category 1 credit avail. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- March 18 **Ultrasound in Abdominal Surgery**, Ross Hall, The George Washington Univ Med Ctr, Washington, DC. Fee: \$495. 8 hrs AMA Category 1 credit. Contact: Maria Gorrick, The George Washington Univ Med Ctr, Off of CME, 2300 K St, NW, Washington, DC 20037. Phone: (202) 994-4285.
- March 25 **Occupational Medicine Update: Selected Topics in Occupational Medicine**, Sheraton Minneapolis Metrodome, Minneapolis, MN. Fee: \$140. 7 hrs AAFP & AMA Category 1 credit. Contact: Registrar, Cont Educ, Midwest Center for Occupational Health & Safety, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- March 25-27 **3rd Annual Conference on Advances in Clinical Anesthesiology**, Amelia Island Plantation, Amelia Island, FL. AMA Category 1 credits avail. Contact: Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.

APRIL

- April 3-9 **Anesthesiology Review Course - Professional Seminars**, Orlando, FL. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D., Assoc Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- April 8 **ENT Update for Primary Care Physicians**, Scheffer Audit, St. Joseph's Hosp, St. Paul, MN. Fee: \$135. 6.75 hrs AAFP & AMA Category 1 credit. Contact: CME, Ramsey Foundation, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- April 14-16 **Trauma of Upper Extremity Fractures & Dislocations of Wrist, Elbow, and Shoulder**, Scottsdale, AZ. AMA Category 1 credit avail. Contact: Post Graduate Courses, Section of Cont Educ, Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.
- April 21 **Geriatric Forum: Critical Care of the Elderly**, Rapid City. AMA Category 1 credit avail. Contact: Lorna Ogle, Rapid City Regional Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- April 29-30 **South Dakota Chapter, American College of Surgeons Annual Meeting**, Sioux Valley Hospital, Sioux Falls, SD. Contact: Jan Anderson, SDSMA, 1323 S Minnesota Ave, Sioux Falls, SD 57105. Phone: (605) 336-1965.

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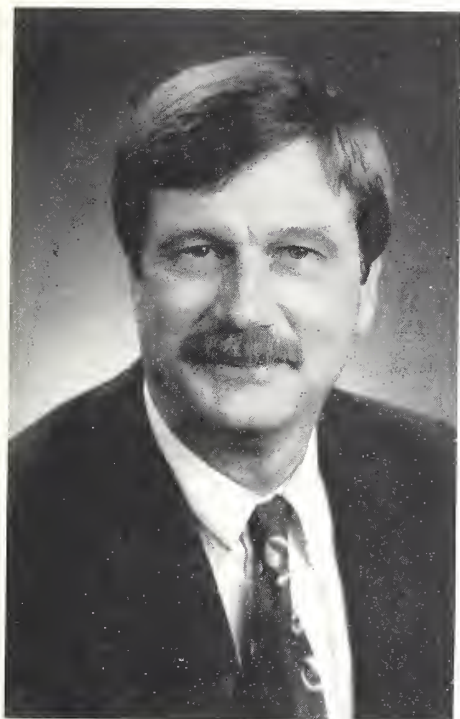
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President's Page



**Thomas L. Krafska, MD, President
South Dakota State Medical Association**

By the time you read this the 1994 legislative session will be history and the election campaign will be in full swing. Too few of us will have had personal involvement in the legislative process and we will have depended heavily on our lobbyists to achieve our goals.

The campaign (not only the high profile race for Governor but all of the individual legislative races) will give the opportunity to get involved in the political process where it counts most. This is the time to examine voting records and personal philosophies of candidates and decide who to support, or decide to run yourself.

I know you must be tired of me urging you to get involved but, with increasing emphasis on health system reform at the state level, we can use all the help we can get in Pierre. If you need further encouragement, look at what happened in Minnesota and count the lawyers already in Pierre.

This will be a very interesting year for South Dakota politics and a good time to be part of the process.

Thomas L. Krafska MD

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On Consumption

In earlier times, the name given to an illness often seemed more evocative of the spirit of the malady than is our current nomenclature. Consumption was more than a mere name for tuberculosis (TB). The term seemed to conjure up the fever, weight loss, and pining decline that embodied the illness in literature and in life. It is estimated that, in the past two centuries, a thousand million persons around the world died of this disease. It struck down legions of anonymous individuals, as well as such well known persons as Keats, Chopin, Goethe, and Poe.¹ A recent, fairly graphic depiction of consumption is seen in the portrayal of Doc Holiday in the movie "Tombstone."

By its modern name, tuberculosis (and its current epidemiologic status in South Dakota) is a timely topic. As the article by Iverson et al in this issue of the *South Dakota Journal of Medicine* notes, the steady decline in the incidence of TB leveled off in 1985. Now the Centers for Disease Control's hope for eliminating this disease in the United States by the year 2010 is in jeopardy.

As it happens, recent months have found me reading and reflecting about tuberculosis and Rene' Dubos. I have used one of Dubos' books in an undergraduate class and have been intrigued to learn that he had an important role in early research directed at finding a cure for tuberculosis. Thus, the article by Iverson et al provides an excellent rationale for me to develop an analysis of Dubos the thinker and Dubos the tuberculosis fighter.

This tale begins with a recently published book by Frank Ryan entitled, *The Forgotten Plague: How the Battle Against Tuberculosis Was Won and Lost*.² In this book, Dr Ryan discusses the chronology of scientists and their discoveries which ultimately led to the discovery of antibiotics effective against tuberculosis. Dubos, who is characterized as a "philosopher-scientist", was involved in early bench research of antimicrobials. This work, and that of numerous other scientists, ultimately led to the discovery of streptomycin, isoniazid, and ethambutol. With the discovery of these drugs, it seemed likely that the worldwide scourge of tuberculosis could be controlled. This prospect appeared particularly glorious given the worldwide prevalence of TB and the millions of people who had succumbed to it over the centuries.

As Dr Ryan was researching this history, he was planning on a triumphant ending to his book, touting the prospect of eliminating TB. In the course of his researches, he was dismayed to learn that not only has TB continued to flourish throughout the world, but with

the advent of AIDS the incidence and virulence of the disease appears to be increasing. Particularly alarming has been the development of drug resistant strains of TB. It is postulated that this is partly due to noncompliant patients who are partially treated for their TB infections. They do not finish the prescribed course of antibiotics and often develop resistant strains of the disease.

A move from Dubos the scientist to Dubos the philosopher is accomplished in his 1959 book, *Mirage of Health: Utopias, Progress, and Biological Change*.³ One chapter in this book deals with the myths of Hygeia and Asclepius. To the ancients, Hygeia was the guardian of health and symbolized the importance of proper living. Latter day advocates of preventive health measures might cite the Hygeia perspective. She epitomized "living wisely". Asclepius, on the other hand, was viewed in Greck legend as the world's first physician, and one incredibly skilled in the use of the knife for curative surgery and in the use of curative plants (i.e. early pharmacology). Asclepius came to epitomize the ideal of definitive and successful intervention against disease. Dubos points to the possibility that Western medicine has been too enamored with "the cure" and insufficiently attentive to right living and prevention.

The relevance of Dubos' reflections are evident in the world's continuing saga with the ravages of TB. Without the type of balance that Dubos talks about between prevention/right living and curative intervention, the prospects of controlling TB do not seem good. Clearly, in our society, we need to strive to find ways to prevent the spread of AIDS. A definitive cure seems unlikely, at least soon. As long as the HIV virus continues to infect large numbers worldwide, there will continue to be many instances of active TB in these immunocompromised individuals. Certainly, the efforts to prevent AIDS (such as the use of condoms, abstinence, and worldwide education) readily can be seen as embracing the Hygeia perspective. Moreover, an element of Hygeia-type emphasis can be seen in the need to do more than simply diagnose cases of active tuberculosis and prescribe drug treatment. As suggested by Dr Ryan, factors like poverty, lack of education, and apathy all contribute to increasing numbers of noncompliant patients who fail to be cured of their TB and may end up developing drug resistant disease. A Hygeia perspective would seem to mandate the need for health care providers to develop better

psycho-social epidemiologic methods to improve drug therapy compliance, and to try to change environmental and social factors which promote the spread of TB.

In our musings, we all might dream of a day when medicine has a definitive cure for all maladies. While such a vision has appeal as a utopian view, the prospects of achieving such a state do not seem good. Most likely, as we advance scientifically to achieve better treatments, life will be improved. However, history suggests that new maladies and the unavoidable vicissitudes of aging will continue to tax and thwart us. Prevention, if possible, will always be better than cure. As suggested by the reflections of Rene' Dubos and the realities of the recurrent resurgence of tuberculosis, we in health care will best serve our patients when we succeed in melding the spirit of both Hygeia and Asclepius into our practices.

Jerome W. Freeman, MD
Editor

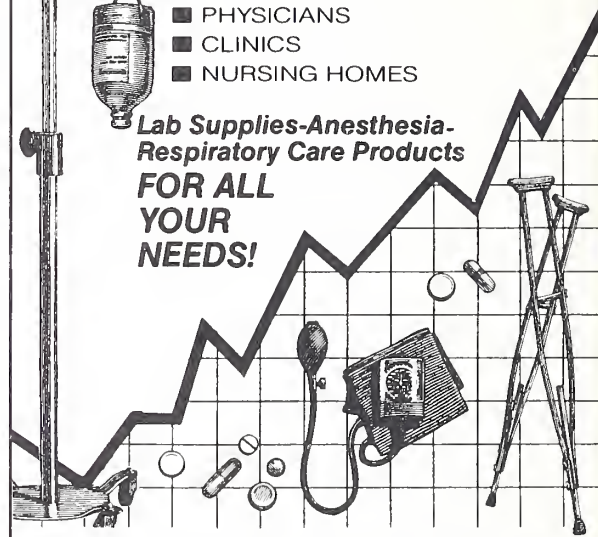
REFERENCES

1. Ryan F: *The Forgotten Plague*. Little, Brown & Co, 1992.
2. Ryan *ibid*.
3. Dubos R: *Mirage of Health: Utopias, Progress, and Biological Change*. Rutgers University Press, 1959.

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Mycobacterium Tuberculosis Epidemiology in South Dakota

Deborah A. Iverson, MS, Brian Hurley, MD, Robert Pueringer, MD

ABSTRACT

Tuberculosis incidence in the United States has recently increased from its rate of decline resulting in an excess of cases nationwide. The increase has been attributed largely to the HIV epidemic. Although tuberculosis incidence in South Dakota has increased similar to the national trend, South Dakota has not reported a single HIV-associated case of tuberculosis.

Tuberculosis incidence in South Dakota has decreased in younger individuals. As a result, the percentage of tuberculosis cases in the elderly has increased. Though the reported cases of pulmonary tuberculosis have decreased, the reported cases of extrapulmonary tuberculosis have not changed. Furthermore, the percentage of extrapulmonary tuberculosis occurring in the elderly has increased.

Tuberculosis incidence in South Dakota is, in part, increasing because of the persistence of extrapulmonary tuberculosis in the elderly.

INTRODUCTION

Mycobacterium tuberculosis was thought to be a disease of the past. However, tuberculosis continues to be a serious public health problem in the United States and in the world. It is estimated that one billion persons are infected with *Mycobacterium tuberculosis* worldwide with an annual prevalence of 16 million cases of tuberculosis.¹ Comparatively, the World Health Organization (WHO) estimates that approximately 10 million people are infected with human immunodeficiency virus (HIV) worldwide.²

Tuberculosis is a preventable, treatable, and curable disease. Although there has been much success in controlling tuberculosis in the developed countries, tuberculosis incidence in the United States has recently increased from its rate of decline resulting in an excess of 28,000 cases (Figure 1). The increase in observed cases has been attributed to the HIV epidemic, immigration from high tuberculosis prevalent countries, and transmission of tuberculosis in institutionalized environments where persons at high risk congregate.³

HIV-associated tuberculosis has been the topic of much discussion. Snider reported that HIV infection is the strongest risk factor for tuberculosis yet identified.³ After observing the national trends of tuberculosis incidence, we expected that tuberculosis

epidemiology in South Dakota would be similar. We hypothesized that tuberculosis in South Dakota has increased from its rate of decline largely due to the HIV epidemic. It was the purpose of this study to look at tuberculosis epidemiology in South Dakota by retrospectively reviewing tuberculosis cases in South Dakota.

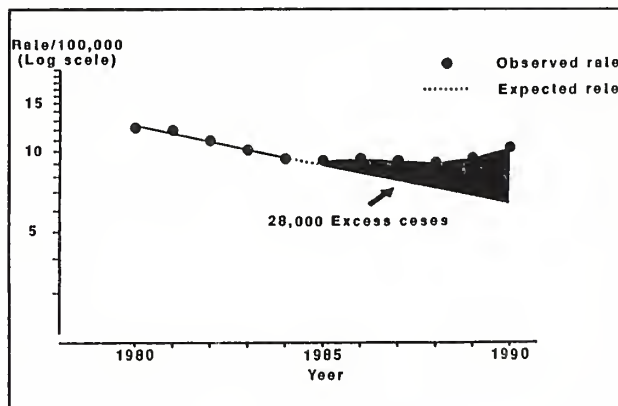


Figure 1

Expected and Observed Tuberculosis Cases in the United States (1980-1990). In 1985 tuberculosis incidence in the United States started to increase from its rate of decline resulting in an excess of 28,000 excess cases.³ Reprinted with permission from the authors, P. F. Barnes and S. A. Barrows.

METHODS

Tuberculosis cases reported to the South Dakota Public Health Office during the years 1968 to 1993 were reviewed.

Incidence rates were calculated using the total cases per year, as reported by the Public Health Office, and population estimates for the same year. This was repeated for each year and rates were recorded as cases per 100,000 people.

Extrapulmonary tuberculosis was defined as tuberculosis involvement outside the lung. Pleural and miliary tuberculosis were defined as extrapulmonary tuberculosis.

Pulmonary cases were calculated by finding the difference between total cases and extrapulmonary cases.

Cases were recorded by age and organized into three groups: 0-24, 25-44, 45+ years of age. Total number of cases and the number of extrapulmonary cases were organized into these age groups.

Due to small numbers, the data were organized into groups of five year spans: 1968-72, 1973-77, 1978-82, 1983-87, and 1988-92. Standard descriptive statistical analysis was applied.⁴

RESULTS

Similar to the national trend, the incidence of tuberculosis in South Dakota has increased from its rate of decline (Figure 2). Nationwide this increase has been attributed to HIV-associated tuberculosis with a subsequent rise in the number of cases occurring in the younger age groups. In contrast, South Dakota has not reported a single HIV-associated case of tuberculosis.

To determine if this were due to under-reporting of HIV-associated tuberculosis, the distribution of tuberculosis cases in the age groups 0-24, 25-44, 45+ years of age was examined. In contrast to the national trend, tuberculosis incidence decreased in individuals 0-24

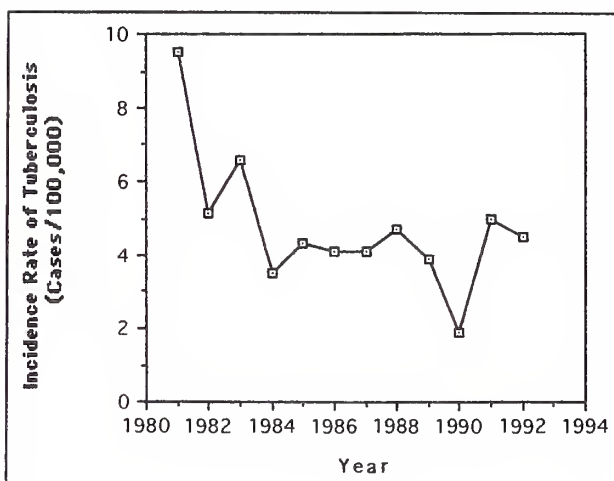


Figure 2

Tuberculosis Incidence in South Dakota (1980-1992). Similar to the national trend, tuberculosis incidence in South Dakota started to increase from its rate of decline in 1985.

and 25-44 years of age in South Dakota (Figure 3), but increased in those over 45 years of age (Figure 4). This suggested that the increase in reported cases of tuberculosis is not due to HIV-associated tuberculosis in South Dakota.

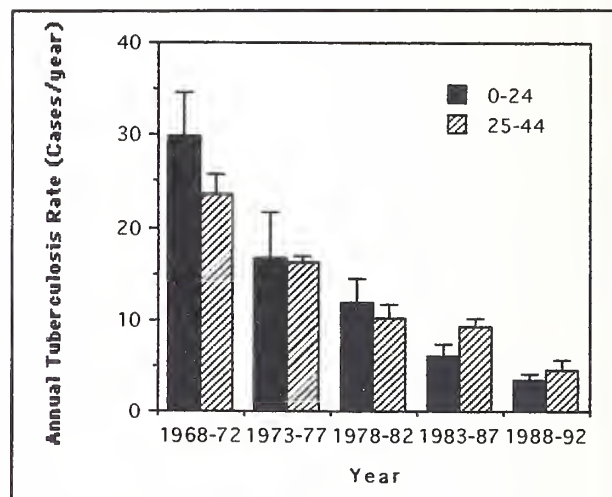


Figure 3

Tuberculosis Rate is Decreasing in Young South Dakotans. Tuberculosis incidence, measured by rate (cases/year), has decreased in individuals 0-24 and 25-44 years of age. (Values for each five-year period represent mean \pm SEM).

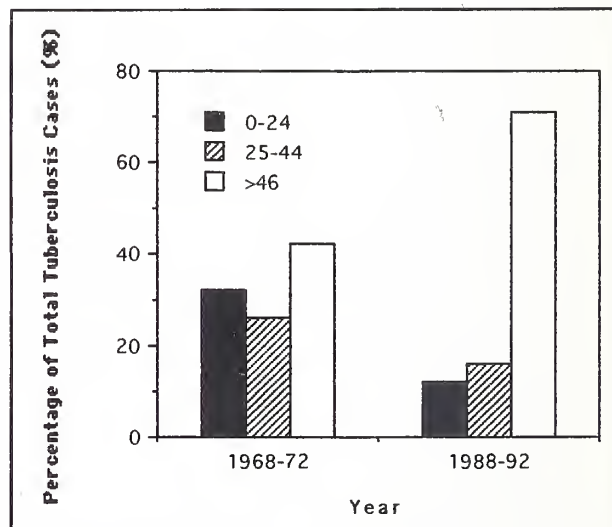


Figure 4

Tuberculosis in South Dakota is Becoming a Disease of the Elderly. The percentage of reported tuberculosis cases in the elderly has increased.

To further evaluate the potential source of the increase in tuberculosis incidence, tuberculosis cases were examined for pulmonary versus extrapulmonary tuberculosis. Though the reported cases of pulmonary tuberculosis decreased from 1968 to present, the reported cases of extrapulmonary tuberculosis did not change (Figure 5). Furthermore, a greater percentage

of extrapulmonary tuberculosis occurred in those over 45 years of age (Figure 6). This parallels the increased percentage of tuberculosis cases reported in those over 45 years of age (Figure 4). This suggests that tuberculosis in South Dakota is, in part, increasing because of a persistent occurrence of extrapulmonary tuberculosis in the elderly.

DISCUSSION

The Center for Disease Control and Prevention (CDC) has outlined a plan for the elimination of tuberculosis in the United States by the year 2010.⁵ However, in 1985 tuberculosis incidence stopped decreasing and started to increase. In order to achieve tuberculosis elimination, it has become necessary to find reasons for the increased incidence of tuberculosis.

As noted above, nationwide the increase in the incidence of tuberculosis has been attributed largely to

HIV-associated tuberculosis. The incidence of tuberculosis in South Dakota has increased similar to the national trend, but South Dakota has not reported a single HIV-associated case of tuberculosis. This suggests that there are other factors accounting for the increased incidence of tuberculosis in South Dakota.

Tuberculosis in South Dakota is becoming a disease of the elderly. The percentage of reported tuberculosis cases in those over 45 years of age has increased from 42% (1968-72) to 71% (1988-92) of the total reported cases (Figure 4). Furthermore, the percentage of reported tuberculosis cases in individuals 65 years of age and older also increased from 18% (1968-72) to 34% (1988-92). These findings are congruent with national figures reported by Powell and Farer.⁶ They reported an increase in the percentage of tuberculosis cases occurring in individuals over the age of 64 years from 13.8% in 1953 to 28.6% in 1979. The high percentage of tuberculosis cases occurring in the elderly suggests reactivation of previous infection. The observed decrease in tuberculosis incidence found in younger individuals suggests that there has been continued decrease in newly acquired or primary infections. Primary tuberculosis is not necessarily restricted to the younger age groups. Stead reported that new tuberculosis infections may be more common in elderly residents of nursing homes than is generally realized.⁷ However, it is still accepted that the great majority of tuberculosis in the elderly develops as recrudescence of old infection.^{6,8}

Tuberculosis control has had an apparent effect on the number of primary tuberculosis cases, but has not had the same effect on reactivation cases. It appears that there is a lag between the decrease in primary tuberculosis cases and the subsequent decrease in reactivation cases that should result. The increased incidence of tuberculosis in South Dakota could be a result of this lag.

Though the reported cases of pulmonary tuberculosis decreased from 1968 to present, the reported cases of extrapulmonary tuberculosis did not change (Figure 5). Today, extrapulmonary tuberculosis represents a larger proportion of total tuberculosis cases than it did previously. The decline in total tuberculosis cases can be attributed largely to a decrease in pulmonary tuberculosis. The increase could be a result of the persistent occurrence of extrapulmonary tuberculosis.

In conclusion, though HIV-associated tuberculosis has had the spotlight in the United States concerning tuberculosis epidemiology, there are other factors contributing to tuberculosis epidemiology that need be considered. Tuberculosis incidence in South Dakota is, in part, increasing because of the occurrence of extrapulmonary tuberculosis in the elderly.

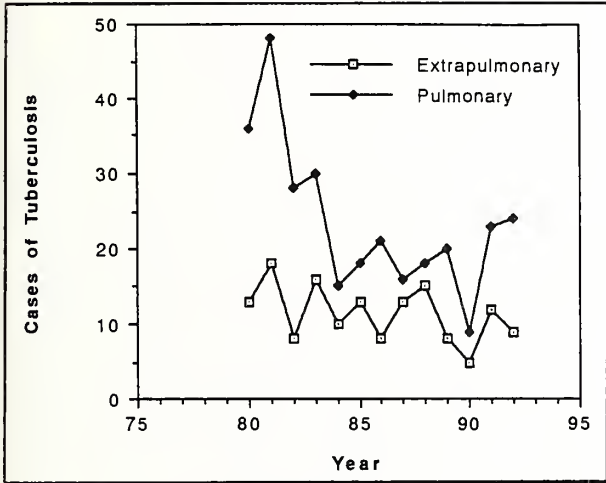


Figure 5

Pulmonary Versus Extrapulmonary Tuberculosis. Though the reported cases of pulmonary tuberculosis decreased, the reported cases of extrapulmonary tuberculosis did not change.

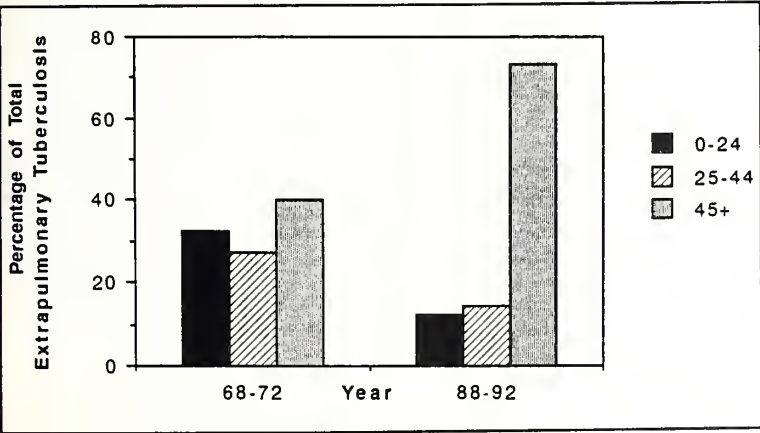


Figure 6

Percentage of Extrapulmonary Tuberculosis in Various Age Groups. The percentage of extrapulmonary tuberculosis in the elderly has increased.

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ACKNOWLEDGEMENT

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AUTHORS

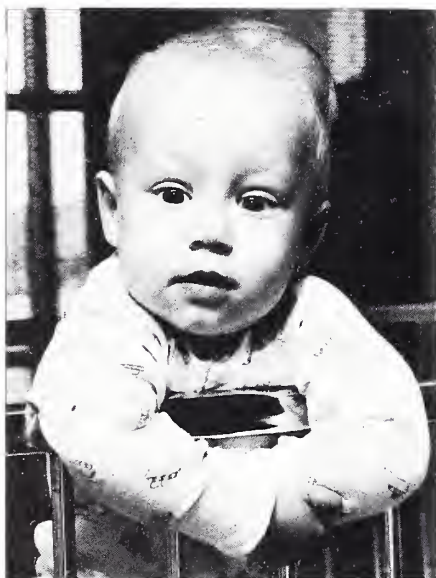
Deborah A. Iverson, medical student at USD School of Medicine; recipient of Sioux Valley Hospital Summer Research Grant; and supported, in part, by the South Dakota Lung Association.

Brian Hurley, MD, Associate Professor of Internal Medicine, USD School of Medicine, Sioux Falls, SD.

Robert Pueringer, MD, Associate Professor of Internal Medicine, USD School of Medicine, Sioux Falls, SD.

REFERENCES

1. Yoshikawa TT: Tuberculosis in aging adults. *J Amer Ger Soc* 1992;40:178-187.
2. Center for Disease Control. The HIV/AIDS epidemic: The first 10 years. *MMWR* 1991;40(22):357.
3. Barnes PF, Barrows SA: Tuberculosis in the 1990's. *Ann Intern Med* 1993;119(5):400-410.
4. Glantz SA: Primer of Biostatistics, 2nd ed. McGraw-Hill. St. Louis, 1987.
5. Center for Disease Control. A strategy plan for the elimination of tuberculosis in the United States. *MMWR* 1989;38(S-3):1-25.
6. Powell KE, Farer LS: The rising age of the tuberculosis patient: A sign of success and failure. *J Infect Dis* 1990;162:946-948.
7. Stead WW: Tuberculosis among elderly persons: An outbreak in a nursing home. *Ann Intern Med* 1981;94:606-610.
8. Stead WW: Does the risk of tuberculosis increase in old age? *J Infect Dis* 1983;147(5):951-955.



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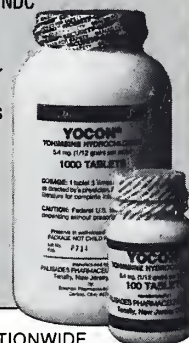
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References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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Robert Delaney, MD	Mitchell, SD	John Herlihy, MD	Rapid City, SD
Douglas Holum, MD	Mitchell, SD	Calvin S. Schad, DO	Rapid City, SD
David Kundel, MD	Mitchell, SD	John F. Barlow, MD	Rapid City, SD
Dennis Leland, MD	Mitchell, SD	Robert Johnson, MD	Rapid City, SD
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Mike Christiansen, MD	Rapid City, SD	Paul Hohm, MD	Huron, SD
Jeff Bendt, MD	Rapid City, SD	Corey Buhler, MD	Mitchell, SD
Gary Welsh, MD	Rapid City, SD	Rodney Parry, MD	Sioux Falls, SD

AMA Physician Recognition Award

Congratulations to the physicians in South Dakota who have earned the AMA Physician Recognition Award in the months of September, November, December, 1993 and January, 1994.

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Lawrence W. Finney, MD*	Sioux Falls	Thomas E. Masterson, MD*	Sioux Falls

November

Marc E. Boddicker, MD*	Rapid City, SD
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December

Allen E. Nord, MD*	Rapid City
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January

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*members of the South Dakota State Medical Association

Extenuating Circumstances

A periodic column of personal, ethical, and socioeconomic reflections on medicine.

The Art of Personal Communication — Revisited and Revitalized!

The frontier physician had little to offer his patient other than empathy, support and the "laying on of hands" — the art of medicine through personal communication. With the rampant advances of medical technology and specialization — the science of medicine — came a decline in communication, not only care receiver-caregiver but also caregiver-caregiver.

Now I sense a rebirth in the use of communication techniques, which our forefathers relied on so heavily, fueled by patient autonomy concerns, malpractice threats, governmental legislation and the specter of health care system reform.

Some examples:

Ambulatory Care - The ongoing challenges of patient understanding, education and compliance have been partially met by the use of audiovisual aids, physician assistants and home health services. Pharmacists provide useful medicinal information but could do more to reduce the trade-generic name morass. Partial coverage of expensive drugs by insurance and Medicare would enhance compliance.

Living Will and Durable Power of Attorney laws have been passed in South Dakota and other states to encourage patients, relatives, and physicians to discuss terminal illness decision-making. Health care system reform may enhance the process by increasing the numbers and financial status of primary care physicians. The Patient Self-Determination Act, 1990, mandates obtaining advance directive information upon entering a hospital, HMO, or nursing home — a marketing device to encourage communication. The challenge is monumental but we're headed in the right direction.

Hospital Care - From my perspective, patient care in the hospital has become remote and detached. My routine — geriatric practice in a 400-bed hospital — has consisted of reading the chart, questioning and examining the patient, inserting my contribution to the chart and moving on to see remotely scattered patients. Other physicians go through the same process. There is minimal dialogue between the physician and nurse or other paramedical personnel. Making rounds together is impeded by other priorities such as passing trays, emptying commodes, and processing paperwork! Physicians too often acquiesce and permit mediocre care.

But change is coming! The nursing team approach, once outmoded, is being revitalized. Economic concerns dictating the rehiring of LPNs and nurse's aides

are soon to follow. Maybe physicians and RNs can once again converse on a professional level.

I was gratified to learn that a physician-nurse committee had been formed at the hospital (hopefully it will be permanent!) to iron out mutual concerns. Maybe once again caregivers can reunite in making a team effort to better serve patient needs.

Nursing Home Care - Second only to the nuclear energy industry as far as governmental regulations are concerned, the nursing home industry expects much from its attending physicians. Unfortunately, they expend much energy on trivial matters: approval to dispense an aspirin, or permission to visit outside the nursing home, or to "release the body". All too often, more important decisions are made without physician input. How much physician expertise goes into a resident care plan; or to assess the need for further physical therapy to justify further Medicare coverage (it's easier to just sign the form!); or to discuss the pros and cons of using restraints or psychotropic drugs? Fortunately, two factors should improve the situation: better physician remuneration and greater responsibility and stature of the medical director. Medical director input in the Rapid City area has helped ease communication problems among physicians, nurses and other nursing homes in the community.

Physician - Physician Dialogue - Technology, in my view, has reduced communication among physicians concerning patient care. Maybe we've become so busy being busy that we forget common courtesies. Or maybe technology breeds so much power that the wielder thereof forfeits humility and gratitude. Illustrations abound!

Unknown to me, a cardiologist to whom I had referred a patient, sent that patient to a tertiary care center. I learned about it three weeks later when the Mayo Clinic consultation letter came to me. How often have I learned of the death of a referred patient by reading the newspaper's obituary column. In the British Isles the first person to learn of a patient's death in the hospital is the referring primary care physician.

Yes, consultants excel in providing retrospective reports to physicians and we appreciate that fact. But how often is a primary care physician's knowledge and wisdom requested in a prospective manner? I wonder how often 80-year old patients would be subjected to coronary bypass surgery if a proper dialogue existed between the primary physician and the cardiovascular

surgeon. How often is technology used inappropriately in the terminally ill for the same reason? Who concerns himself or herself with duplication of technology use and rising costs? An elderly man recently presented to my office with peripheral neuropathy and a comprehensive diagnostic work-up failed to reveal the etiology. Two weeks later the scenario was repeated in a VA hospital. Two weeks after that it was repeated a third time in a neurologist's office. What ever happened to the telephone and FAX machine? I wonder how often similar costly events are repeated across the country.

The same lack of communication prevails among specialty and subspecialty groups in the hospital setting. Clinical pathological conferences and grand rounds once served as forums for the exchange of knowledge, ideas and passions from diverse backgrounds. They are now passé! What takes their place? Individual departments develop policies without input from other departments. Last summer I questioned the prolonged use of CPR (out of hospital) in elderly ill patients, some of whom were getting hospice care, under the guidance of the emergency department. I suggested that a meeting between ER physicians and geriatricians might be fruitful in reviewing the CPR policy and modifying it. We are still waiting for an invitation.

Yes, some view with alarm the prospect of health care system reform bringing with it managed care, increased primary care physician use, and cost restraints. Reform will bring some loss of freedom but irresponsible freedom deserves to be lost. In the midst of chaos there may be a chance for recapturing some of the attributes which have made our profession strong—integrity, courtesy, compassion and a return to practicing the art as well as the science of medicine. Let us begin by talking to each other!

Reuben Bareis, MD
Rapid City, SD



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The Squeeze Is On

Brian Kaatz, Pharm.D, Sioux Falls

A 1991 editorial in the New England Journal of Medicine likened past efforts in health care price controls to squeezing a balloon — increased pressure on one end of the inflated balloon results in a bulge on the other side. This vivid analogy illustrates how controls, price shifting, and other artificial machinations up to now have not really accomplished their intended actions of decreased health care costs. New ways of marketing and paying for health care products are similarly not always what they seem. Attempting to solve one problem may result in another.

As portents of reform and continued change swirl about health care, we can see many permutations of the traditional way of delivering and paying for care. Group A is getting a price break for procedure X at facility Y that Group B isn't. My insurance may extend payment that is considerably more or less than someone else's insurance, all for the very same service. This way of "doing business" is reminiscent of a typical airplane full of passengers; there quite often are many different payment schedules for the exact same act of delivering passengers from one city to another. The fact that I am paying a significantly different price doesn't seem to bother anyone in the airline industry.

So it is with the brave new world of reimbursement for pharmaceuticals. Depending on the plan in force for any given patient, a prescription may cost \$8 or \$10 or \$12. Even wider variations occur. Third parties are squeezing pharmacists and, for the most part, still do not pay for any service or action not directly tied to a product. If a pharmacist catches an interaction or therapeutic duplication of drugs, perhaps because a patient is seeing several physicians, any discontinuation of a product is a financial negative, regardless of money or morbidity saved. At this time there are few rewards for cognitive activity unrelated to a product. Thus, new models for the way pharmacists get paid are rightfully being explored.

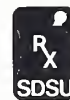
A recent effort in the direction of non-traditional payment methods for pharmaceuticals missed the mark. A prominent pharmaceutical company offered a sum of money to pharmacists for "cognitive" efforts related to beginning their drug in patients. Payment was to be made when the patient began this drug or when there was a change made from another, competing drug. The effect of this offer was to financially encourage switching from a similar drug to theirs, though putatively, payment was for counseling and

compliance enhancement services. Any change was always done with physician authorization, typically solicited by the pharmacist.

The question is begged whether or not this kind of endeavor is done for patient benefit or more mercenary reasons. Arguably, the right thing may have been done for the wrong reasons. A subtle cost benefit to patients may have been there, at least initially, but overall therapeutic consequences would not likely differ much. Though a reward system for worthwhile and meaningful cognitive efforts from pharmacists needs to be explored so that incentives for cost savings for patients and the "system" are not at cross-purposes to pharmacist economic interests, this plan and others like it are not the answer.



Edited by Brian Kaatz, Pharm.D.



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Clinicopathologic Review of 92 Cases of Colon Cancer

Samir N. Rizk, MD, and John J. Ryan, MD

ABSTRACT

This review included 92 cases with confirmed primary colon cancer seen at the Veterans Administration Hospital in Sioux Falls, South Dakota between 1988 and 1992. The presenting symptoms and signs and their relation to the site of the tumor, as well as the diagnostic procedures used, methods of treatment and follow-up are presented. Anemia was the initial presentation in 48 patients (52.2%), rectal bleeding in 19 patients (20.4%), and change in bowel habits in 15 patients (16.4%). Seventy-one of these cases (77.2%) were diagnosed by colonoscopy and biopsy, and the remaining 21 patients (23%) were diagnosed by exploratory laparotomy.

Invasive adenocarcinoma was the predominant cell type and was present in 75 patients (81%). At the time of diagnosis, 64 (69%) of the patients were in stage I and II and 28 (30.4%) were in stage III and IV. The extent of the disease clearly affects survival, with high mortality in those patients diagnosed at late stages. This review again emphasizes the importance of early diagnosis in reducing the morbidity and mortality from this common neoplasm.

INTRODUCTION

The incidence of colon cancer has increased in the past decade.¹ Colorectal carcinoma approximately accounts for 15% of all cancers and is the second leading cause of cancer related deaths in the United States. There are approximately 150,000 new cases diagnosed each year, with 60,000 related deaths that occur.² Despite the advances in the diagnosis and new treatment strategies, the mortality rate for colorectal carcinoma remains unchanged, and the detection of colon cancer at an early, more treatable stage, offers the best opportunity to reduce this mortality rate.

Herein, we present a retrospective review of all cases of primary colon cancer at the Veterans Administration Hospital in Sioux Falls, South Dakota seen between 1988 and 1992. Data concerning the initial presentation, stage and the extent of the disease, management and survival rate in all these cases are presented.

PATIENTS AND METHODS

The patients reviewed were mostly elderly male veterans; the mean age was 69 years (range 42-97), diagnosed with primary colon cancer, at the Veterans Administration Hospital in Sioux Falls, South Dakota between 1988-1992. A data base file was created to record these patients. A total of 92 cases was available for retrospective review. Factors reviewed included: the clinical presentation, the anatomic location of the

lesion, the extent of the disease at the time of diagnosis, the treatment modalities, and the outcome including mortality and recurrence rate. The extent of the disease and stage was defined according to the American Joint Committee on Cancer (AJC) classification (Table I and II), that recognizes: preinvasive stage (stage 0); superficial tumors without muscular involvement (stage I); invasion through the serosa (stage II); invasion and involvement of regional lymph nodes (stage III); and distant metastasis (stage IV). The system is closely correlated with the Dukes Classification, but the latter was not available for all cases and thus could not be used for evaluation.

Table I

Stage 0	T ₁	N ₀	M ₀
Stage I	T ₂	N ₀	M ₀
Stage II	T ₃	N ₀	M ₀
Stage III	Any T	N ₁	M ₀
Stage IV	Any T	N ₄	M ₀
	Any T	Any N	M ₁

AJC stage grouping of colorectal cancer. (In: Holleb AI, Fink DJ, eds. *Colorectal Cancer: Clinical Oncology*. Atlanta, American Cancer Society).

Table II		
Intraepithelial		0
Submucosa		T ₁
Muscle or serosa		T ₂
Extension to contiguous structures		T ₃
No regional lymph node involvement		N ₀
Regional		N ₁
Exteraregional		N ₄

Tumor (T), Node (N) classification of colorectal cancer.

The tumor location was classified as: Right colon (from cecum to hepatic flexure), Transverse colon (including both hepatic and splenic flexure) and Left colon (from splenic flexure to rectosigmoid function).

The operations were "radical" when a standard resection of colon, with the associated area of lymphatic drainage, and the surgeon considered that all neoplastic tissue had been removed; these were either: hemicolectomy or partial colectomy. Bypass surgery and local surgical excision were done as palliative measures.

RESULTS

A total of 92 patients was reviewed, all of whom were followed at regular intervals. The average follow-up for these patients was 18 months. The minimum follow-up period was one year or until death. No patient was lost to follow-up.

The patient's age ranged from 42 to 97 years (mean 69 years), only two patients were under 50 years. Anemia was the initial presentation in 37 patients (41%). Thirty-one of these anemic patients were diagnosed at early stages (stage 0, I and II). Nineteen patients (21%) presented with rectal bleeding, twelve of them were in stage IV, and 15 patients (16%) presented with a change in bowel habits, eight of these patients were in stage IV at the time of diagnosis.

The anatomic locations of the tumor are shown in

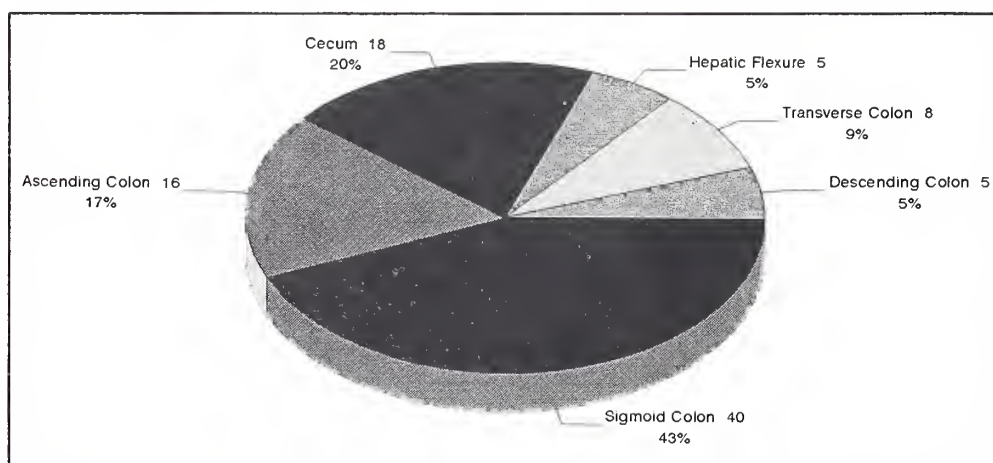


Figure 1

Site of the Primary Tumor

Figure 1. The Sigmoid colon accounted for 43%, while the right side of the colon including the cecum and the ascending colon constituted 37%. Most of the patients were diagnosed by colonoscopy and biopsy (77%) and 23% were undiagnosed prior to laparotomy.

Adenocarcinoma accounted for 81% of the cases and was the most common pathologic type. Adenocarcinoma in villous adenoma was found in 6 patients (7%) and 11 patients had carcinoma in situ (12%).

Stage I lesions were the most frequent (42%) and stage II accounted for 11%. Thirteen percent and seventeen percent were found in stage III and IV respectively.

Eighty-nine patients underwent resection, 17 patients received chemotherapy after surgery and three patients were given chemotherapy only.

Table III shows the types and frequency of operations done.

Table III		
	Number of Patients	(%)
RADICAL OPERATIONS		
Hemicolectomy	33	36
Partial Colectomy	36	39.5
Total Colectomy	1	1
TOTAL	70	76.5
PALLIATIVE MEASURES		
Bypass Surgery	5	5
Local Surgical Excision	17	18.5
TOTAL	22	23.5

Surgical operations done and their frequency.

There was recurrence of the disease in seven patients (7%). No recurrence was reported in 66 patients (67%) during the average follow up period of 18 months and 19 patients were never disease free. The number of recurrences in relation to the stage of the disease is illustrated in Table IV. Thirty-one patients died during the period of follow-up, most of whom were diagnosed an advanced clinical stage. (Figure 2)

Table IV			
	Recurrence	No Recurrence	Never Disease Free
Stage 0		14	
Stage I	1	28	
Stage II	3	18	
Stage III	3	6	3
Stage IV			16
Total	7	66	19
%	7.5%	71%	21.5%

Number of recurrences in the different stages of the disease. Tumor recurrence was distant (i.e., in liver, bone or peritoneum) in 5 patients and the other two patients had

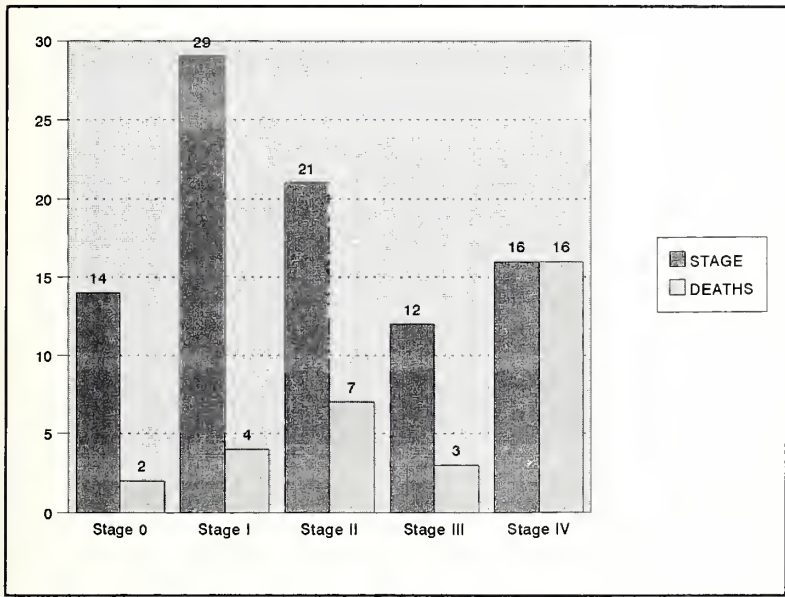


Figure 2

Relationship of Stage to Survival

DISCUSSION

Colorectal cancer is the second most common cause of cancer deaths in the United States and the most prevalent of the gastrointestinal malignancies. Early detection and diagnosis offer the best opportunity to reduce mortality.³

A malignant mass that develops in the colon has the potential to cause early clinical signs and symptoms that are determined largely by the anatomic location which also affects the spread of the tumor. The cecum, transverse colon, and sigmoid colon are intraperitoneal in location and covered by serosa. Tumors that occur at these sites usually lead to peritoneal seeding. While the ascending colon, descending colon, hepatic flexure, and splenic flexure are mainly retroperitoneal, tumors

at these segments have the tendency toward direct extension into the adjacent structures.⁴ The vast majority of patients (93%) were symptomatic, while 7 patients (7%) were diagnosed by routine colonoscopy. Five of the latter had carcinoma in situ and two were in stage I of the disease. Hence, the detection of the tumor at an early, more treatable stage, can be successful by the use of an effective screening test; and the populations at higher risk for colon cancer should be screened more frequently than the general population. Patients over 50 years of age and those with Gardner's Syndrome and familial polyposis together with inflammatory bowel disease are recognized as high risk.⁵

Fecal occult blood testing and flexible sigmoidoscopy are the most commonly used methods for colon cancer screening in the United States.⁶ Some investigators reported that the use of occult blood testing in patients over 50 years of age could reduce the mortality associated with colon cancer by as much as 30%.⁷ Many uncontrolled trials using fecal occult blood testing as a screening test report positivity rates of 2% to 6%, and positive predictive value of about 5%. Tumors that are detected tend to be of an earlier stage than those occurring in the unscreened population. The sensitivity of the test for detecting cancer ranges between 50% and 90%. These uncontrolled studies cannot tell whether fecal occult blood testing reduces mortality in colon cancer.⁷ The use of sigmoidoscopy as a method of screening for colon cancer has been reported in many uncontrolled studies.⁸ These studies provide limited data regarding the efficacy of screening sigmoidoscopy. Although a randomized, prospectively controlled study on sigmoidoscopy has not been performed, a recent case-control study provided impressive evidence that rigid sigmoidoscopy reduced mortality associated with colorectal cancer.⁹

Many prior investigators have described shift in the location of the tumor to the right side of the colon with a decrease in the incidence of rectosigmoid lesions.^{10,11} This "shift" of colon cancer, although generally accepted, has not, however, been definitively proven.¹² There is a controversy in the literature, however, about the meaning of this finding, and until now, there is no conclusion about the importance of the "rightward shift" as a factor affecting the survival in colon cancer. The improved endoscopic surveillance techniques may be responsible for this phenomenon.^{13,14} In our study, the tumor of the right side of the colon constitutes 38%, which is comparable with the percentage of a national survey by the American College of Surgeons in which the right side lesions constituted 36.3% in 1990 (Table V).¹⁵⁻¹⁸

	Table V ACS 1990	VA Sioux Falls (1987-1992)
Ascending/cecum	36.3	38
Transverse	17.1	14
Descending	7.7	5
Sigmoid	33.7	43
Unknown	5.1	

Comparison of the percentage of the anatomical sites of colon cancer in the cases of the VA, Sioux Falls, SD to a National Survey by the American College of Surgeons (ACS).

The mean age of our patients in this study was 69 years, and this is similar to other reported series,^{19,20} that colon cancer is commonly seen in the older patient population, although an earlier age of onset is common in those with a long history of inflammatory bowel disease.²¹ In our review, there were 10 patients (17%) with a family history of colon carcinoma in a first-degree relative. The American Cancer Society places great emphasis on the importance of the family history in assessing risk, especially if the age of onset of the tumor in the relative is 55 years or younger.²²

The high incidence of anemia in our study (41%) may be explained by the large number of cases with right-sided colonic lesions (38%), as these lesions are usually exophytic in nature and are associated with occult blood loss, and results in iron deficiency anemia.^{23,24} Most of the patients who presented with anemia were at an early stage of their disease (stages 0-II) at the time of diagnosis. Given the above, and the fact that most people would agree that right-sided colonic lesion usually present at more advanced stages, one may conclude that among elderly patients presenting with unexplained iron deficiency anemia, colonoscopy should be done even if the screening flexible sigmoidoscopy is negative in the hope of detecting earlier lesions and perhaps improving survival.

Comparable to other studies, the survival rates were over 86% in the patients with carcinoma in situ and stage I of the disease, and 32% in those with nodal metastases.²⁵⁻²⁷

The recurrence rate is variable in the reports of different investigators.^{28,29} Some studies suggest that the anastomotic site is the favored location for recurrence of the tumor.³⁰ In one study, overall anastomotic tumor recurrence was 8.5%.³¹ In our review, the recurrence rate during the average follow-up period of 18 months was 7%, and mainly was at distant sites such as liver, bone and the peritoneum.

The treatment of malignant tumors of the colon must achieve local control of the lesion with an adequate surgical procedure, as determined by the nature and extent of the tumor. The survival correlates directly with the stage of the tumor at the time of diagnosis.

CONCLUSION

The goals for research in colon cancer continue to be prevention, earlier detection and greater accuracy of preoperative staging in order to continue the trend toward enhanced survival. Screening is probably beneficial, especially in high risk groups. The morbidity of screening modalities is low. The major advance in the understanding of this disease is in earlier detection methods that result in potentially curative therapy to be instituted at earlier stages of the disease.

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REFERENCES

1. Levine R, Tenner S, Fromm H: Prevention and early detection of colorectal cancer. *Am Fam Phys* 1992;45:663-668.
2. Nazarian HK, Giuliano AE, Hiatt JR: Colorectal carcinoma: Analysis of management in two medical eras. *J Surg Oncology* 1993;52:46-49.
3. Phillips RKS, Hittinger R, Blesovsky L, et al: Large bowel cancer: Surgical pathology and its relationship to survival. *Br J Surg* 1984;71:604-610.
4. Clemente CD: Anatomy: A regional atlas of the human body. Baltimore-Munich: Urban I Schwarzenberg, 1981.
5. Goligher J: Surgery of the anus, rectum and colon. 5th ed. London: Bailliere Tindall, 1984:1-45.
6. U.S. Preventive Services Task Force: Recommendations for fecal occult blood screening. *JAMA* 1989;261:586.
7. Eddy DM, Nugent FW, Eddy JF, et al: Screening for colorectal cancer in a high-risk population. Results of a mathematical model. *Gastroint* 1987;92:682-692.
8. Lieberman DA: Colon cancer screening. The dilemma of positive screening tests. *Arch Intern Med* 1990;150:740-744.
9. Selby JV, Friedman GD, Quesenberry CP, Weiss NS: A case-control study of screening sigmoidoscopy and mortality from colorectal cancer. *N Engl J Med* 1992;326:653-657.
10. Cady B, Persson AV, Monson DO, Maunz DL: Changing patterns of colorectal carcinoma. *Cancer* 1974;33:422-426.
11. Manazza J, Gordon PH: The changing distribution of large intestinal cancer. *Dis Colon Rectum* 1982;25:558-562.
12. Pfister DG, Horwitz R: The rightward shift of colon cancer. Aging or artifact? *J Clin Gastroenterol* 1987;9:58-61.
13. Howard ML, Greene FL: The effect of preoperative endoscopy on recurrence and survival following surgery for colorectal carcinoma. *Am Surg* 1990;56:124-127.
14. Reasbek PG: Colorectal cancer: The case for endoscopic screening. *Br J Surg* 1987;74:12-17.
15. Pihl E, Hughes ESR, McDermott FT: Carcinoma of the rectum and rectosigmoid: Cancer specific long-term survival. *Cancer*

1980;45:2902-2907.

16. Umpleby HC, Bristol JB, Rainey JB, et al: Survival of 727 patients with single carcinomas of the large bowel. **Dis Colon Rectum** 1984;27:804-810.

17. McDermott FT, Hughes ESR, Pihl E, et al: Comparative results of surgical management of single carcinomas of the colon and rectum: A series of 1,939 patients managed by one surgeon. **Br J Surg** 1981;68:850-855.

18. Ferguson EF, McKibben BT: Preventing colorectal cancer. **Southern Med J** 1990;83:1295-1299.

19. Alley PG, McNee RK: Age and sex differences in right colon cancer. **Dis Colon Rectum** 1986;29:227-229.

20. Fleshner P, Slater G, Aufseo AH: Age and sex distribution of patients with colorectal cancer. **Dis Colon Rectum** 1988;32:107-111.

21. Abrams ES, Reines HD: Increasing incidence of right-sided lesions in colorectal cancer. **Am J Surg** 1979;137:522-526.

22. Levin B, Lennard-Jones B, Riddell RH, et al: Surveillance of patients with chronic ulcerative colitis. **Bull World Hlth Organ** 1991;69:121-126.

23. Devenet KE, Way LW: Follow-up of patients with colorectal cancer. **Am J Surg** 1984;148:717.

24. Evans JT, Vena J, Aronoff BL, et al: Management and survival of carcinoma of the colon: Results of a national survey by the

American College of Surgeons. **Ann Surg** 1978;188:716.

25. Beahrs OH: Staging of cancer of the colon and rectum. **Cancer** 1992;70:1393-1396.

26. Niederhuber JE, Ensminger WD: Treatment of metastatic cancer to the liver. In: De Vita VT, Hellman S, Rosenberg SA, eds. **Cancer: Principles and practice of oncology**. 4th ed. Philadelphia: JB Lippincott, 1993.

27. Fielding LP, Phillips RKS, Hittlinger R: Factors influencing mortality after curative resection for large bowel cancer in elderly patients. **Lancet** 1989;1:595-597.

28. Keiichi H, Yasou K, Yoshihiro M: Lymphatic spread and its prognostic value in patients with rectal cancer. **Am J Surg** 1982;144:351-354.

29. Gillen P, Peel ALG: Comparison of the mortality, morbidity and incidence of local recurrence in patients with rectal cancer treated by either stapled anterior resection or abdominoperineal resection. **Br J Surg** 1986;73:339-341.

30. Umpleby HC, Williamson RCN: Anastomotic recurrence in large bowel cancer. **Br J Surg** 1987;74:873-878.

31. Keighley MRB, Hall C: Anastomotic recurrence of colorectal cancer - A biological phenomenon or an avoidable calamity. **Gut** 1987;28:786-791.

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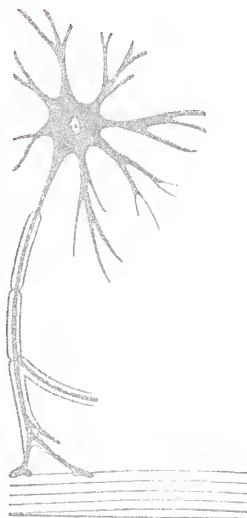
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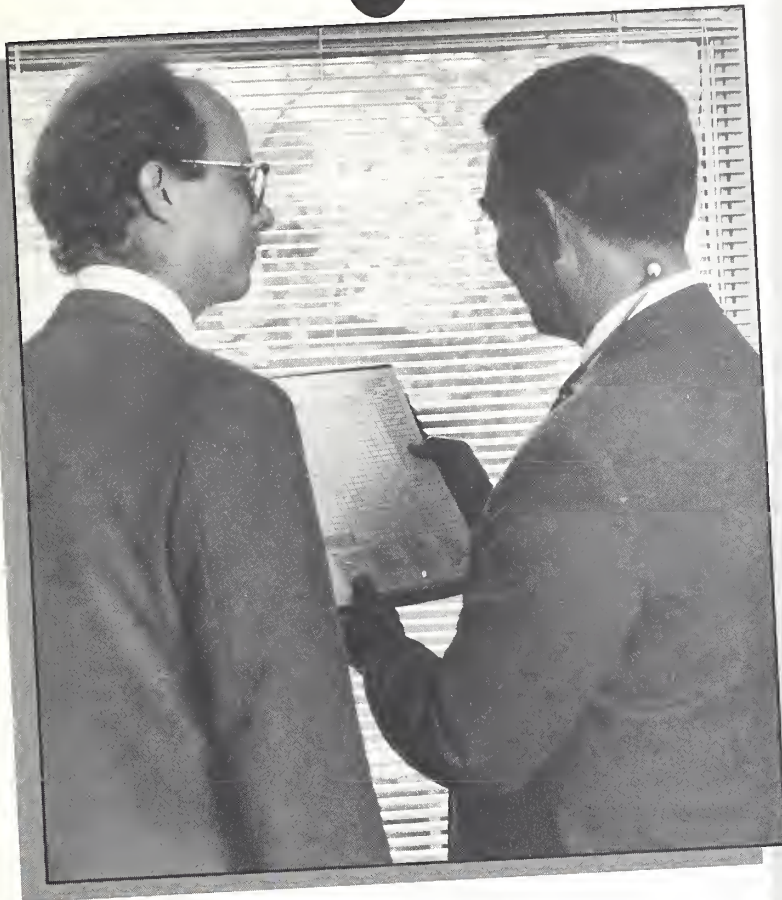
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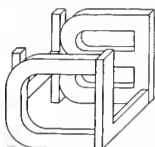
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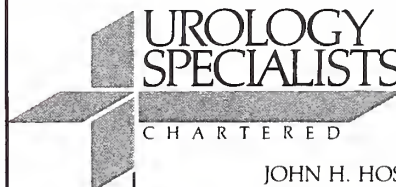
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**Patti Herlihy, President, South Dakota
State Medical Association Alliance**

The promise of Spring can be seen and felt everywhere; something about green grass, flowers blooming and birds singing gets me excited! Kind of like the way I feel when I think about the doctor in my own life—and those physicians who have given so much of themselves caring for me and my family. March 30 is NATIONAL DOCTORS' DAY and we should celebrate!

The observance of Doctors' Day is very significant; on this day in 1842 anesthesia was administered by Dr Crawford W. Long for the first time in Barrow County, Georgia. On March 30, 1933, the Barrow County Auxiliary adopted a resolution proclaiming March 30 as Doctors' Day. The state of Georgia adopted this resolution in 1934, and, in 1990, legislation was introduced to establish a national Doctors' Day. Following overwhelming approval, on October 30, 1990, President George Bush signed the law designating March 30 as "National Doctors' Day."

Physicians spend their lifetimes devoted to caring for others; one day a year is hardly enough to honor their contributions. However, as health system reform overshadows our thoughts and actions, I think it appropriate to relate this new trend to the honored profession of medicine. While attending a meeting recently, I heard some very disturbing comments made by a hospital administrator. He stated that, contrary to tradition,

physicians will no longer be "in charge" of patient care. The contractors (i.e., managed care groups) will decide how much treatment a patient will require (how many in-patient days a specific condition will require, if surgery is indicated, or even if a condition should be treated). These administrators will in effect take over major decisions regarding patients' care. Who has attended medical school? Who has spent many years in training? Who is qualified to make such decisions regarding patient well-being—a physician or an administrator watching out for the economic impact of health care? Doctors are the professionals in medicine.

Four years ago, the AMA introduced Health Access America, recognizing such needs as a plan to provide universal coverage, a tax-free health IRA, ability to transfer coverage to another employer, and mandatory employer responsibility. This plan is being dissected by the Clintons. A proposed seven member National Health Board of government appointees with NO health care experience would oversee the National Health Plan. Health alliances would be set up state by state to monopolize care in that state, very similar to Canada's provincial system. We must be unified in opposing such a health care plan that takes the control of the patient out of the doctor's hands. The patient would be helpless to choose his own physician. We have the BEST health care in the world; we cannot do anything to allow our system's standards to be compromised. Only if we communicate these concerns to our patients effectively will they understand the true horrors of such Clinton plans.

Our physicians deserve the respect of each one of us. Only a physician and his/her spouse and family truly appreciate the dedication and sacrifices required to practice medicine. Doctors' Day, March 30, is the perfect opportunity to express this gratitude. As the traditions of medicine are threatened with health system reform, doctors especially need the support and encouragement of all of us. So, please, make that extra effort to say "thank you" to your spouse as well as to all those physicians who have added to the quality of your life and to that of your family. We can make a difference.

Patti Herlihy

THE SOUTH DAKOTA JOURNAL OF MEDICINE

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CME CONFERENCES

APRIL 1994

- April 1 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- April 1 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- April 1 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 1 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 5 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 6 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Gerald F. Moore, MD; Topic: An Overview of Rheumatic Syndromes; Info: Connie Kleinsasser, USDSM - 339-6638.
- April 6 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Joseph V. Nally Jr, MD, Topic: Renal Effects of Calcium Channel Blockers, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 7 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 7 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Topic: to be announced, Speaker: Dr. James Ruggles, Info: 665-9022.
- April 7 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 7 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 7 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- April 7-8 **Trauma Symposium** - Ramkota Inn, Sioux Falls; Info: Kathy Miles, 339-8096.
- April 8 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 8 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 11 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- April 12 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- April 12 **PALS Instructor** - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
- April 13 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- April 13 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 13-14 **PALS Provider** - McKennan Hospital, Sioux Falls; Info: Darcy Sherman-Justice, 339-8096.
- April 14 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Topic: to be announced, Speaker: to be announced, Info: Drs James Ruggles and Robert Thompson, 665-9022.
- April 14 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 14 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 14 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- April 14 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 14 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- April 15 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 15 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- April 19 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- April 20 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Stephen Karl, MD; Topic: Childhood Trauma; Info: Connie Kleinsasser, USDSM - 339-6638.

- April 20 **Clinical Pathology Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 20 **Geriatric Forum** - 7:30 am, East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 20 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced, Info: Larry Finney, MD, 331-3490.
- April 21 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 21 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- April 21 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 21 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 21 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- April 22 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- April 22 **Tumor Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- April 23 **Morbidity/Mortality Conference** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- April 25 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- April 27 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Richard Gray, MD; Topic: What's New in Congestive Heart Failure; Info: Connie Kleinsasser, USDSM - 339-6638.
- April 27 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- April 27 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- April 28 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- April 28 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- April 28 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- April 28 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 28 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- April 29 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

MAY 1994

- May 3 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- May 3 **ACLS Renewal** - 7.5 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
- May 4 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Robert Piepho, PhD, Topic: Differentiation of Calcium Channel Blockers, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- May 4 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: William S. Mann, MD; Topic: Sports Medicine; Info: Connie Kleinsasser, USDSM - 339-6638.
- May 5 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Topic: to be announced, Speaker: Dr. James Ruggles, Info: 665-9022.
- May 5 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- May 5 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 5 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- May 5 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Michael Robinson, MD; Topic: Oncology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- May 5 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- May 6 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: Michael Robinson, MD; Topic: Oncology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- May 6 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- May 6 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- May 6 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- May 9 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- May 10 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.

- May 11 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- May 11 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Drs. Fred Lovrien & Leonard Gutnik, Topic: Lymphedema, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- May 11 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- May 12 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Topic: to be announced, Speaker: to be announced, Info: Drs James Ruggles and Robert Thompson, 665-9022.
- May 12 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- April 12 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- May 12 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- May 12 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- May 12 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- May 13 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

MISCELLANEOUS MEETINGS

APRIL

- April 4 **Medical Complications - OB Outreach Program**, Offutt Air Base, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- April 7-8 **Obstetrics & Gynecology Update 1994**, Holiday Inn East, St. Paul, MN. Fee: \$250. 12.75 hrs AMA Category 1 credit. Contact: CME, Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- April 8 **ENT Update**, St. Paul-Ramsey Med Ctr, St. Paul, MN. 7 hrs AMA Category 1 credit. Contact: CME, Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- April 15-16 **Topics in Clinical Medicine**, Ramkota Inn, Sioux Falls, SD. 9.75 hrs AMA Category 1 credit. Contact: Lawrence W. Finney, MD, Central Plains Clinic, 1100 E 21st St, Sioux Falls, SD 57105. Phone: (605) 331-3490.
- April 21 **Geriatric Forum: Critical Care of the Elderly**, Rapid City. AMA Category 1 credit avail. Contact: Lorna Ogle, Rapid City Regional Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- April 22-23 **Advanced Laparoscopy for Gynecologist**, St. Joseph I Hospital and Creighton Univ Campus, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- April 23 **Infectious Diseases**, Ritz-Carlton Hotel, St. Louis, MO. AMA Category 1 credits avail. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- April 29-30 **South Dakota Chapter, American College of Surgeons Annual Meeting**, Sioux Valley Hospital, Sioux Falls, SD. Contact: Jan Anderson, SDSMA, 1323 S Minnesota Ave, Sioux Falls, SD 57105. Phone: (605) 336-1965.

MAY

- May 2 **Abruptio Placenta - OB Outreach Program**, Offutt Air Base, Omaha, NE. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- May 7 **Sleep Disorders for the Primary Care Physician**, Adam's Mark Hotel, St. Louis, MO. AMA Category 1 credit avail. Contact: Cathy Sweeney, Off CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- May 13-14 **Black Hills Cardiac Symposium**, Howard Johnson Conv Ctr, Rapid City, SD. 8.5 hrs AMA Category 1 credit. Contact: Lorna Ogle, Rapid City Reg Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- May 19-21 **Disability Evaluation & Management**, St. Paul-Ramsey Med Ctr, St. Paul, MN. 16 hrs AMA Category 1 credit. Contact: CME, Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- May 19-22 **A Review of Orthopaedics and Orthopaedic Pathology**, Criss II Bldg, Creighton Univ, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.

JUNE

- June 15-17 **17th Annual Black Hills Seminar: Advances in Clinical Pediatrics**, Rushmore Plaza Holiday Inn, Rapid City, SD. AMA Category 1 credit avail. Contact: Lawrence R. Wellman, MD, USD School of Medicine, 1100 S Euclid Ave, PO Box 5039, Sioux Falls, SD 57117-5039. Phone: (605) 333-7178.
- June 30 - July 1 **Emergency & Critical Care Conference**, Spirit Lake, IA, Contact: Pat or Barb, (605) 339-6790.

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The Surgical Treatment of Fingertip Injuries

Robert E. Van Demark Jr, MD, and Robert E. Van Demark Sr, MD

ABSTRACT

Soft tissue and pulp loss severely damages the functional effectiveness of any digit. Prompt treatment must be individualized with reference to age, occupation, pre-injury problems and associated injuries to nerve, tendon and bone. Amputation of severely damaged digits may be a preferable alternative to reconstruction.

The aim of patient treatment is prompt recovery and early return to work. All fingertip injuries show variable degrees of contamination and loss of blood supply. Secondary soft tissue necrosis may occur. Prompt selective treatment for each patient will prevent prolonged disability, loss of motion, repeat surgery and loss of time from work.

Most important is a history of injury, with reference to the hour, date, circumstances and place of injury. Did the wound occur in a clean environment or in a barnyard? What treatment was performed? What x-rays were taken and their availability? Is there a history of previous injury, and if so, what was it and the time lost from work? What is the status of tetanus prophylaxis? Is there a history of allergies, particularly antibiotics? When did the patient last eat or drink?

Examination of the injured digit, with reference to the degree of contamination, blood supply, active motion and sensation is carried out. X-rays of the injured digit and other suspicious areas are needed to evaluate the bony structures. Also, a medical examination should be performed, with particular reference to pulmonary or cardiac problems which may influence anesthetic choices.

After careful evaluation of all factors, pre-operative discussion with the patient (or parents of a minor) should be done and recorded on the chart; the surgical consent form may need appropriate modifications.

Only after the preceding steps should the patient be given an anesthetic. The choices are varied and the majority of fingertips can be treated nicely with regional anesthetic (axillary or I.V. regional) or local digital anesthesia. General anesthesia is needed for abdominal pedicle grafts. If the patient has a history of a local anesthetic allergy to either ester type (e.g. Novacaine) or the amide group (e.g. Xylocaine) the opposite type can be used. "Tourniquet time is pre-

cious"¹ particularly in cases with a severely injured blood supply. Only the tourniquet permits excellent visualization of the wound.

Prompt cleansing of the wound with soap-pulsating jet lavage and careful limited debridement are of primary importance. This is most effective in wounds of less than four hours. Early coverage of the wound, by appropriate similar soft tissue, is most desirable. Distal advancement of the volar tissues is particularly effective² in the thumb (Moberg), (Figure 1) and to a much



Figure 1

- A. Amputated thumb tip.
- B. Result following volar flap advancement — excellent function, sensation, motion and appearance.

lesser extent in the other digits. (Figure 3) Full thickness skin grafts provide excellent coverage; thick split thickness skin grafts are a good substitute. (Figure 2) The fat of an abdominal pedicle graft will afford soft

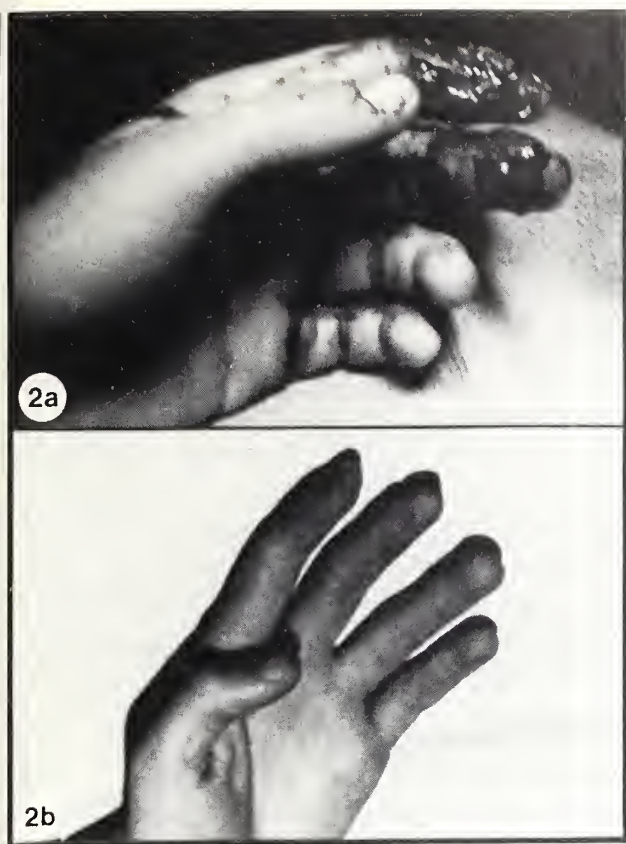


Figure 2

- A. Loss of skin on index and middle fingers. Note intact neurovascular bundle.
- B. Treatment with thick split skin graft. Full range of motion in fingers resulted.



Figure 4

- A. Soft tissue loss of middle finger tip with bone and nail bed injury.
- B. The flap graft from the abdomen thickened as the patient had gained weight. The fat of abdominal flap grafts respond to general weight gain or loss in donor area.



Figure 3

- A. Soft tissue injury to pulp of long finger; involved bone and nail.
- B. Result following repair of soft tissues and nail bed.



Figure 5

- A. Deep soft tissue loss of little finger in a computer worker.
- B. Treated with cross-finger graft from ring finger with resumption of full computer activities.

tissue bulk (Figure 4) as well as an excellent gliding surface for tendons. A cross-finger flap from the dorsum of an adjacent phalanx has the necessary gliding layer, remains stable in size and requires less hand and wrist immobilization. (Figure 5) Post-operative hand therapy is an excellent adjunct.

Standard permanent impairments are rated as loss of the digits.³ Loss of the entire thumb is 40% of amputation of the hand; index and middle fingers 20% each; ring and small fingers 10% each. In a computer worker, the value of the small finger may be increased.

Digital reconstruction may give unsatisfactory results, particularly in older patients whose interphalangeal joints are prone to stiffen. Interphalangeal joints damaged by previous disease (e.g. arthritis) or injury are prone to become ankylosed during the period of soft tissue healing. This can result in stiff fingers in adjacent digits, as well as the primarily injured digit. Amputation, as an alternative to reconstruction surgery, may be the best choice in such situations. In an interesting article, Brown⁴ reported the long term results in 183 surgeons who had lost parts of their hands.

Only three claimed any significant disability; all others continued to practice operative surgery. Brown concluded that the motivation of the patient is more important than the actual number of fingers.

AUTHORS

Drs Robert E. Van Demark, Jr and Robert E. Van Demark Sr are from the Section of Orthopedics, Department of Surgery, USD School of Medicine and the Van Demark Bone and Joint Clinic, Sioux Falls, SD.

REFERENCES

1. Welgis EFS: Observations on the effect of tourniquet ischemia. *J Bone Joint Surg* 1971;53-A:1343-1346.
2. Green DP: *Operative Hand Surgery*. New York, Churchill Livingstone, 3rd Ed, Vol 3. 1993:pp 2308.
3. *Guides to the Evaluation of Permanent Impairment*. Chicago, Illinois, 3rd Ed. AMA, 1988:pp 254.
4. Brown PW: Less than ten - surgeons with amputated fingers. *J Hand Surg* (Jan) 1982;7:31-37.

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† Relief began in 13% of treated patients vs 4% of placebo-treated patients within 30 minutes ($P=0.04$). At 2 hours, 48% of patients receiving placebo experienced relief. Distribution of onset times was significantly earlier for CLARITIN Tablets vs placebo ($P=0.03$).

Please see following page for brief summary of Prescribing Information.

CLARITIN®
brand of loratadine
TABLETS
Long-Acting Antihistamine

BRIEF SUMMARY
(For full Prescribing Information, see package insert.)

INDICATIONS AND USAGE
CLARITIN Tablets are indicated for the relief of nasal and non-nasal symptoms of seasonal allergic rhinitis.

CONTRAINDICATIONS
CLARITIN Tablets are contraindicated in patients who are hypersensitive to this medication or to any of its ingredients

PRECAUTIONS
General: Patients with liver impairment should be given a lower initial dose (10 mg every other day) because they have reduced clearance of CLARITIN Tablets

Drug Interactions: The coadministration of a single 20 mg dose of CLARITIN Tablets (double the recommended daily dose) and a 200 mg dose of ketoconazole twice daily to 12 subjects resulted in increased plasma concentrations of loratadine (180% increase in AUC) and its active metabolite, descarboethoxyloratadine (56% increase in AUC). However, no related changes were noted in the QTc on ECGs taken at 2, 6, and 24 hours after the coadministration of loratadine and ketoconazole. Also, there were no significant differences in clinical adverse events between CLARITIN Tablet groups with or without ketoconazole

Other drugs known to inhibit hepatic metabolism should be coadministered with caution until definitive interaction studies can be completed. The number of subjects who concomitantly received macrolide antibiotics, cimetidine, ranitidine, or theophylline along with CLARITIN Tablets in controlled clinical trials is too small to rule out possible drug-drug interactions. There does not appear to be an increase in adverse events in subjects who received oral contraceptives and CLARITIN Tablets compared to placebo.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: In an 18-month oncogenicity study in mice and a 2-year study in rats, loratadine was administered in the diet at doses up to 40 mg/kg (mice) and 25 mg/kg (rats). In the carcinogenicity studies, pharmacokinetic assessments were carried out to determine animal exposure to the drug. AUC data demonstrated that the exposure of mice given 40 mg/kg of loratadine was 3.6 (loratadine) and 18 (active metabolite) times higher than a human given 10 mg/day. Exposure of rats given 25 mg/kg of loratadine was 28 (loratadine) and 67 (active metabolite) times higher than a human given 10 mg/day. Male mice given 40 mg/kg had a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas) than concurrent controls. In rats, a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas) was observed in males given 10 mg/kg and males and females given 25 mg/kg. The clinical significance of these findings during long-term use of CLARITIN Tablets is not known.

In mutagenicity studies, there was no evidence of mutagenic potential in reverse (AMES) or forward point mutation (CHO-HGPRT) assays, or in the assay for DNA damage (Rat Primary Hepatocyte Unscheduled DNA Assay) or in two assays for chromosomal aberrations (Human Peripheral Blood Lymphocyte Clastogenesis Assay and the Mouse Bone Marrow Erythrocyte Micronucleus Assay). In the Mouse Lymphoma Assay, a positive finding occurred in the nonactivated but not the activated phase of the study.

Loratadine administration produced hepatic microsomal enzyme induction in the mouse at 40 mg/kg and rat at 25 mg/kg, but not at lower doses.

Decreased fertility in male rats, shown by lower female conception rates, occurred at approximately 64 mg/kg and was reversible with cessation of dosing. Loratadine had no effect on male or female fertility or reproduction in the rat at doses of approximately 24 mg/kg.

Pregnancy Category B: There was no evidence of animal teratogenicity in studies performed in rats and rabbits. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, CLARITIN Tablets should be used during pregnancy only if clearly needed.

Nursing Mothers: Loratadine and its metabolite, descarboethoxyloratadine, pass easily into breast milk and achieve concentrations that are equivalent to plasma levels with an AUC_{milk}/AUC_{plasma} ratio of 1.17 and 0.85 for the parent and active metabolite, respectively. Following a single oral dose of 40 mg, a small amount of loratadine and metabolite was excreted into the breast milk (approximately 0.03% of 40 mg over 48 hours). A decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother. Caution should be exercised when CLARITIN Tablets are administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children below the age of 12 years have not been established

ADVERSE REACTIONS
Approximately 90,000 patients received CLARITIN Tablets 10 mg once daily in controlled and uncontrolled studies. Placebo-controlled clinical trials at the recommended dose of 10 mg once a day varied from 2 weeks' to 6 months' duration. The rate of premature withdrawal from these trials was approximately 2% in both the treated and placebo groups.

REPORTED ADVERSE EVENTS WITH AN INCIDENCE OF MORE THAN 2% IN PLACEBO-CONTROLLED ALLERGIC RHINITIS CLINICAL TRIALS

PERCENT OF PATIENTS REPORTING

	LO RATADINE 10 mg QD n = 1926	PLACEBO n = 2545	CLEMASTINE 1 mg 8/D n = 536	TERFENADINE 60 mg 8/D n = 684
Headache	12	11	8	8
Somnolence	8	6	22	9
Fatigue	4	3	10	2
Dry Mouth	3	2	4	3

Adverse event rates did not appear to differ significantly based on age, sex, or race, although the number of non-white subjects was relatively small.

In addition to those adverse events reported above, the following adverse events have been reported in 2% or fewer patients.

Autonomic Nervous System Altered salivation, increased sweating, altered lacrimation, hypoesthesia, impotence, thirst, flushing

Body As A Whole Conjunctivitis, blurred vision, earache, eye pain, tinnitus, asthma, weight gain, back pain, leg cramps, malaise, chest pain, rigors, fever, aggravated allergy, upper respiratory infection, angioneurotic edema

Cardiovascular System Hypotension, hypertension, palpitations, syncope, tachycardia

Central and Peripheral Nervous System Hyperkinesia, blepharospasm, paresthesia, dizziness, migraine, tremor, vertigo, dysphonia

Gastrointestinal System Abdominal distress, nausea, vomiting, flatulence, gastritis, constipation, diarrhea, altered taste, increased appetite, anorexia, dyspepsia, stomatitis, toothache

Musculoskeletal System Arthralgia, myalgia

Psychiatric Anxiety, depression, agitation, insomnia, paroniria, amnesia, impaired concentration, confusion, decreased libido, nervousness

Reproductive System Breast pain, menorrhagia, dysmenorrhea, vaginitis

Respiratory System Nasal dryness, epistaxis, pharyngitis, dyspnea, nasal congestion, coughing, rhinitis, hemoptysis, sinusitis, sneezing, bronchospasm, bronchitis, laryngitis

Skin and Appendages Dermatitis, dry hair, dry skin, urticaria, rash, pruritus, photosensitivity reaction, purpura

Urinary System Urinary discoloration, altered micturition.

In addition, the following spontaneous adverse events have been reported rarely during the marketing of loratadine: peripheral edema, abnormal hepatic function, including jaundice, hepatitis, and hepatic necrosis, alopecia, seizures, breast enlargement, erythema multiforme, and anaphylaxis

OVERDOSAGE
Somnolence, tachycardia, and headache have been reported with overdoses greater than 10 mg (40 to 180 mg). In the event of overdosage, general symptomatic and supportive measures should be instituted promptly and maintained for as long as necessary. Treatment of overdosage would reasonably consist of emesis (ipecac syrup), except in patients with impaired consciousness, followed by the administration of activated charcoal to absorb any remaining drug. If vomiting is unsuccessful, or contraindicated, gastric lavage should be performed with normal saline. Saline cathartics may also be of value for rapid dilution of bowel contents. Loratadine is not eliminated by hemodialysis. It is not known if loratadine is eliminated by peritoneal dialysis.

Oral LD₅₀ values for loratadine were greater than 5000 mg/kg in rats and mice. Doses as high as 10 times the recommended clinical doses showed no effects in rats, mice, and monkeys

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 **KEN**

Reference

1. Bédard P-M, Del Carpio J, Drouin MA, et al. Onset of action of loratadine and placebo and other efficacy variables in patients with seasonal allergic rhinitis. *Clin Ther.* 1992;14:268-275.

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Extenuating Circumstances

A periodic column of personal, ethical, and socioeconomic reflections on medicine.

Patient Care: The Soul Perspective Phillip Walter Holmes, MS IV

*I saw his name. His chart was quite thick.
I thought to myself, "This patient is sick."
The more I thought, the more I could see,
That this very patient was the person for me.
I opened his chart. The record was long.
His files were full of all that went wrong.
His history showed he had colon cancer;
Surgery was now the only good answer.
His bowels were plugged; he had obstipation.
They opened him up to clear the frustration.
So now he was able to defecate well,
But his liver was large and had started to swell.
A CT was done to look at the liver.
The metastases found did give me a shiver.
An x-ray was ordered of the man's chest.
His lungs were opaque and fuzzy at best.
His lungs were congested because of his heart,
Which now was in failure and falling apart.
And as I closed his thick chart I spied,
A note which read that his wife had just died.*

*I felt really nervous. I wasn't sure why.
I'm not the sort to be very shy.
I guess I just wasn't sure what to say
To someone so ill as this man today.*

*I walked to his room and knocked on his door.
I gave him my name while crossing the floor.*

*I looked at his face, and saw the deep hurt.
His hair was rumpled, and so was his shirt.*

*A nasal cannula was strapped to his head,
And he lay there all sweaty upon his white bed.*

*The man tried to keep himself neat.
He combed his hair and straightened the sheet.
I could tell he was tired,
And filled with much pain,
But he was trying his best to not show the strain.*

*He invited me to sit down on a chair,
And proceeded to talk in a slow, gentle air.
He asked me about the weather outside.
He acted quite cordial and had nothing to hide.
I asked him some questions, the ones I knew best.
He answered them all, and then took a rest.*

*He then told me he loved to ride horses;
He told me he spent five years in armed forces;
He said he enjoyed to laugh and tell jokes.
"I'm really not one of those serious folks."*

*He told me about his sweet, lovely wife,
And how he loved her for all of her life.
And then he stopped and teared a bit,
But then he caught me off guard with his wit.
He told me a joke, and boy, did we laugh,
He'd heard the joke from one of the staff.*

*I then told him about my own life;
About my young son and about my sweet wife.
I talked with him for an hour or more.
He made it so easy. It wasn't a chore.
I opened my soul and showed him the view.
He understood. He'd shown me his, too.*

*And soon a patient I knew only as "STATS",
Became a human who wore many hats.
Here was a man who had done many things;
Had gathered up wisdom; had felt many stings.
Yet still he could laugh and share with another.
He felt like a friend, a father, a brother.*

*He thanked me for coming and talking to him.
"It made me feel better," he said with a grin.
And I in return did thank him too,
For reminding me of what is so true;
Each life has a reason, a purpose, a goal.
And caring for others is good for your soul.*

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Recent Thoughts About the Afterbirth

Examination of the placenta, the source of nutrition and gas exchange for the developing fetus, can tell us much about the newborn. Actually every physician delivering babies should be aware of gross abnormalities of the placenta such as velamentous insertion of the cord in which the vessels course over the fetal membranes and are exposed to trauma resulting in hemorrhage, thrombosis, or compression. The placenta can also be examined for missing fragments which are possibly retained in the uterus.

There are many intrauterine untoward conditions which may lead to fetal damage including a wide variety of infections, maternal diabetes mellitus or hypertension, cocaine or alcohol abuse and smoking. However, the placenta can often only respond to these insults with a limited menu of morphologic responses. For instance, the villi may appear immature or hypermature for gestational age in some of the above conditions. For this reason, the clinician must supply the pathologist with gestational age.

Another example of a similar morphologic response by the placenta is that acute and/or chronic villitis may be seen with a large number of infections. To determine which infection may require good communication between the clinician and pathologist so that appropriate serologic tests or microbial detection tests are employed.

Clinical information may also determine the sections taken by the pathologist. Maternal history of hypertension or toxemia would indicate several sections of the placental floor so maternal vessels in the decidua may be examined for characteristic changes. A history of premature rupture of the membranes or maternal fever would indicate more generous sampling of the fetal membranes to detect chorioamnionitis, a common but serious problem which would suggest consideration of antimicrobial therapy for the infant.

The pathologist would hardly ever be able to determine the length of the umbilical cord because the entire length of the cord is not submitted. However, a short cord (under 30 cm) can be associated with neurologic damage to the fetus, abruptio placenta or placental inversion. An excessive long cord (over 70 cm) can be associated with entanglements, neck looping, prolapse or true knots. Therefore, when appropriate, the whole cord should be measured.

The presence of meconium is important because it neutralizes antibacterial properties of amniotic fluid and is a sign of possible fetal distress. The time at which meconium discharge took place may be timed since meconium does not appear in macrophages before 3 hours in the amnion and does not appear in the chorion until after 24 hours.

Regardless, the question arises as to when to examine the placenta. Some institutions examine all placentas but a more practical approach is to use criteria for pathologic examination such as some of you received from St. Paul Insurance Company in the recent past. The indications below are from the references appended.

CRITERIA FOR PLACENTAL EXAMINATION

Maternal	Fetus/Newborn	Placenta/Cord
Diabetes	Stillborn	Infarcts
Pregnancy induced or chronic hypertension	Neonatal death	Abruptio
	Multiple gestation	Vasa Previa
Premature rupture of membranes	Prematurity	Placenta previa
Postterm delivery	Growth retardation	Abnormal calcification
Fever	Congenital anomalies	Abnormal gross appearance
Poor history or no prenatal care	Hemolytic disease	Short cord (<30 cm)
Drug abuse	Transfer to intensive care	Long cord (>70 cm)
Toxemia	Abnormal fetal monitoring	Retained placenta
HIV +	Meconium staining	
Venereal disease	Low apgar scores	
History of reproductive loss	Hydrops fetalis	
	Suspect infection	

John F. Barlow, MD
Editor

REFERENCES

1. AbrAmowsky CR, Schwartz DA: Introduction to the Pathology of the Placenta. ASCP 1992.
2. Arch Path & Lab Med 1991;115(7):685-687.
3. Livingston C. Path of Placenta 1984:212.

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Correspondence

It seems to me that your editorial on page 43 of your February 1994 issue, and the letter from H. Phil Gross, MD on page 62, and advertisement by the malpractice insurance carrier on the inside of the back cover all have a common bond, strike a common cord, and may be harbingers for protection under the changes that may be coming in medicine — **communication**. Even the *USA WEEKEND* magazine of February 18-20, 1994 (that may have come with your Sunday paper) has a short article on page 26: *Physician, hear thyself*.

Dr Gross' "endorphins" seem to be activated by something the senses tell the brain. Sort of an internal communication. What gets activated when the patient (potential or established) comes to your office? You can start with parking. And how do you get to your office? And how do you get in? And what is found when there?

— Here is an area where medical doctors and maybe their staff do not seem to tread: How long has it been (if ever) since you went in your front door. I think you and your staff use the back door. This is where the communication starts to fail. You do not know what the patient experiences!

— I think that few, if any, medical doctors realize what the patient goes through when arriving at the reception desk, or in the course of "signing up". How are your potential patients treated, or your regular patients? I think that you do not know. Another failure of communication.

What are the telephone manners of your office like? You do not know? Why? The answer: You have never called yourself up. Try a placebo or double blind call. You may be shocked.

Those who write on the merits of communication may be voices in the wilderness. In 1975, Edward C. Kupers wrote in the *Journal of Legal Medicine* an article on the subject that it takes more than insurance to protect against malpractice litigation.¹ He observed that when treatment goes wrong or an accident occurs, a physician's personality and rapport with the patient often determines whether there will be litigation. Is this still the case, in whole or part? I do not know, but I think that the medical profession knows. I suspect that there is still some influence.

I notice an interesting area involving Dr Gross' endorphins: Names used. There are older people that do not like to be addressed by their first names by someone much younger. But there are older people who feel that if a younger person does not use their first name, then they are made to feel much older. Also there is the matter of the protection of women in this strange day and age.

— To take the latter first; I am a convert. I find that women employees prefer just the first name in com-

munication with the "unknown public" — the telephone, some correspondence, reception areas, and the like. It is a matter of the "safety of anonymity". But in the medical office it is a different matter.

In 1980, a retired senior citizen office worker living in Boston wrote a blistering article blasting the use by staff of first names of the elderly and the treatment of the elderly in general.² Care must be used in this area of names. How do you find out what to do? Carefully. To ask the patient directly in the office you may not get the correct answer — a matter of iatrogenesis, to perhaps slightly adapt the term. Go the roundabout way. Or take a survey that can be completed at leisure.

On the other hand, the endorphins might get involved with this: "I Am King of the Hill and I Alone Decide What the Patient is to Know and How the Patient is to be Handled". Communication involved? Or Draconian or Procrustean trouble ahead?

So much for me suggesting how things should be done. I have observed and participated in the things written, and perhaps at times suffered or cringed a little — maybe because for over a tenth of a century,³ I tried to teach the benefits of communication, et al.⁴

— Having retired, I look around and at times feel as if I am just another voice in the wilderness.

Mead Bailey, JD
Professor of Law (Ret)
Brandon, SD

REFERENCES

1. Kupers EC: It takes more than insurance to protect against malpractice suits. *J Legal Med* 1975, March.
2. Barry K: Shape up, kiddies. *Newsweek* 1980, August 11.
3. With research observation, and a degree of patience I attempted to disclose, teach, and explain to senior law students the prevention of malpractice, (including the Life and Times of the Sisters Feasance), and office management.
4. Bailey M: Have you called yourself up lately? Survival Skills for Practicing Lawyers, Am Bar Assoc Sec. *Law Office Management* 1994;pg 46.

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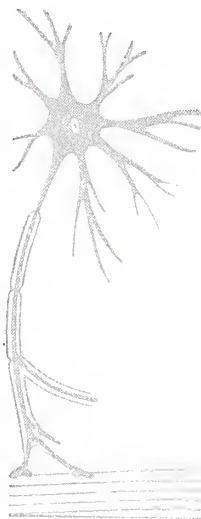
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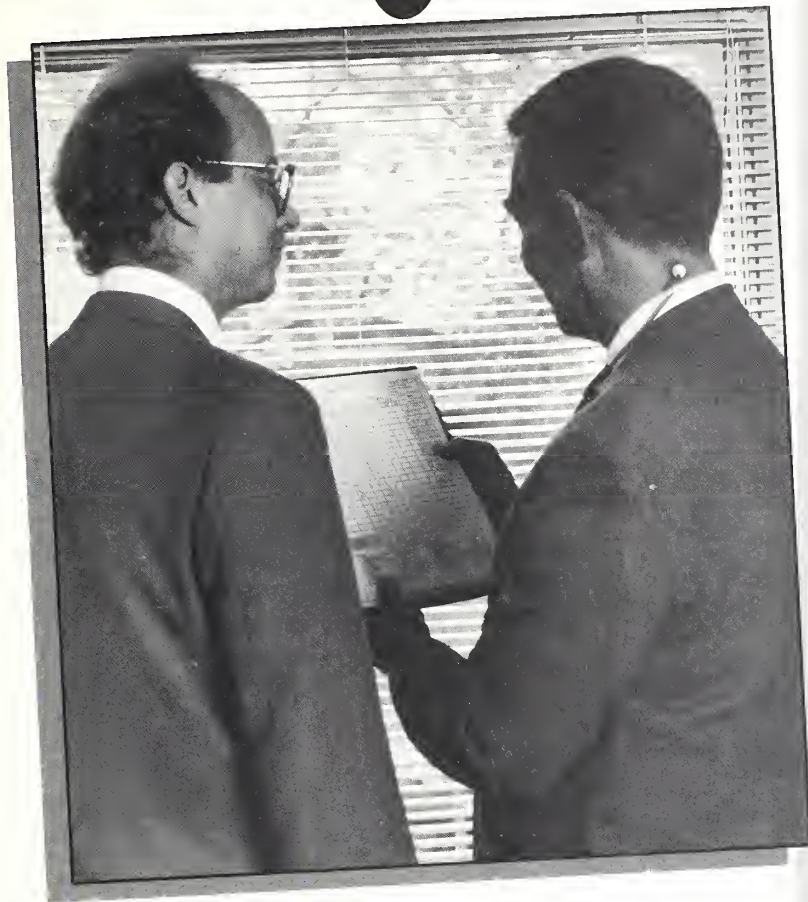
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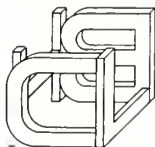
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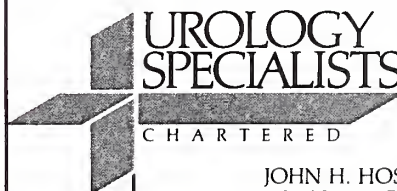
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Pine Ridge Indian Health Service Primary Care Resident Rotation: An Update

H. Bruce Vogt, MD, O. Myron Jerde, MD

ABSTRACT

The Pine Ridge Indian Health Service Primary Care Resident Rotation has been in existence for 2 years. It was conceived in an effort to help address the problem of recruitment and retention of physicians at Pine Ridge in the long term, while offering a unique educational experience for primary care residents. Twenty-five residents from family practice, general internal medicine, and general pediatric residency programs across the country have participated in calendar years 1992 and 1993. Three of the original 12 residents have returned following completion of their residency programs to join the Pine Ridge medical staff.

BACKGROUND

The Pine Ridge Indian Health Service Primary Care Resident Rotation¹ has completed two calendar years of operation. Initiated by the University of South Dakota School of Medicine, this endeavor was planned with the support and cooperation of the Oglala Sioux Tribe, the Aberdeen Area Indian Health Service, and the three medical schools in the neighboring states of North Dakota and Nebraska.

The project was conceived in an effort to help address the problem of recruitment and retention of physicians at the Pine Ridge IHS site, while offering a unique educational experience for primary care residents (family practice, general internal medicine, general pediatrics).

The 5 year project has been financed by an IHS grant initially awarded on May 30, 1991 with funding for years 2 through 5 contingent upon the availability of monies and satisfactory performance. Although a pilot rotation was accomplished by a family practice and an internal medicine resident during the early developmental stages of the project and prior to awarding of the grant, the first formally established rotation occurred in January 1992.

The goals of the rotation remain the same (Table I). The primary goal, "to improve the health care of the Indian people at the provider site," implies the provision of comprehensive and continuous care. This long term goal requires success in achieving the goals of improving the recruitment and retention of

physicians. The belief was and remains that the presence of residents at the Pine Ridge site will increase its attractiveness to physicians with an IHS commitment, and it is hoped the rotation will stimulate an interest among participating residents to consider a career - short or long term - in the IHS. Early results as described below are promising.

Table I
Program Goals

1. To improve the health care of the Indian people at the provider site.
2. To instruct residents in primary care medicine.
3. To instruct residents in the primary care model of the Aberdeen Area Indian Health Service.
4. To provide for the interaction and instruction of residents in the Indian people's health related philosophies.
5. To recruit primary care physicians to a career in the Indian Health Service.
6. To retain current and future providers through their involvement in the teaching program.
7. To involve residents in the health education of the Indian people at the site.
8. To establish a teaching site for future medical student rotations.

RESULTS TO DATE

The program has been quite successful. Although there have not been 2 residents on rotation each month

Table II
Residency Program (Medical School Affiliation)/Discipline

<u>Residency Program (Affiliation)</u>	<u>Discipline</u>	<u>Residency Program (Affiliation)</u>	<u>Discipline</u>
*1. U of South Dakota	IM	16. U of Florida	Ped
*2. Creighton U/Offut Air Force	FP	17. Naval Hospital - Pensacola, Fla	FP
3. U of North Dakota - Bismarck	FP	18. St. Joseph Hospital	
4. Hennepin County (U of Minnesota)	FP	(Northwestern U)	FP
5. Northwestern U	PED	19. Rainbow Babies and Children's	
6. U of North Dakota - Minot	FP	Hospital (Case Western Reserve U)	PED
7. Sioux Falls (U of S. Dakota)	FP	20. Medical Center of Central	
8. Riverside General Hospital		Massachusetts - Worchester, Mass	IM
(Loma Linda U)	FP	21. Medical Center of Central	
9. Swedish Hospital (U. of Wash)	FP	Massachusetts - Worchester, Mass.	IM
10. Montgomery Hospital (Temple U)	FP	22. U of California - San Diego	PED
11. Montgomery Hospital (Temple U)	FP	23. Abbott - Northwestern Hospital	
12. Creighton U	FP	Minneapolis, Minn	IM
13. San Bernadino County		24. U of Minnesota	PED
(U of California - Irvine)	FP	25. Sioux Falls (U of S. Dakota)	FP
14. Bayfront Medical Center		26. Sioux Falls (U of S. Dakota)	FP
(U of S Florida)	FP	27. St. Peter Hospital (U of Washington)	FP
15. Roanoke Memorial Hospitals			
(U of Virginia)	FP		

* Pilot rotation prior to grant award

as originally planned, a total of 25 residents from family practice, internal medicine, and pediatric residency programs across the nation participated in calendar years 1992-1993 (Table II).

Resident evaluations of the rotation have for the most part been very complimentary. A number of residents have commented about the "wide variety of experiences available." As far as primary care medicine exposure, residents have particularly appreciated the variety of patient problems. Comments have included: "Great primary care experience with diverse exposure" and "a wide variety of pathology you do not normally see in the city."

Cultural experiences have been very popular. One resident wrote the following comment: "Excellent cultural experience: meeting with the Medicine Man, inauguration of tribal officials, learning of the Lakota culture. Valuable experience which added to the understanding of the people and their ways." Another wrote: "The cultural experience/exposure was the best aspect of the rotation and I feel privileged to have been allowed the opportunity to share in the sweat lodge and discussion with the Medicine Man."

Some participants have suggested that resident schedules be more structured, and interest has been expressed in having more "formal" teaching sessions (i.e. lectures, conferences). Although a few residents

would have liked more direct supervision, many have enjoyed the opportunity for a degree of autonomy and increased responsibility for patients (Pine Ridge faculty are always on site and available for consultation).

Departmentalization of the medical staff and appointment of an assistant clinical director have resulted in improved coordination of educational activities and supervision. The new hospital, scheduled for occupancy in the spring of 1994, will be an attractive, well equipped facility and will improve the efficiency of patient care. This should also enhance the residents' educational experience.

Most importantly, 3 of the original 12 residents who took the rotation in calendar year 1992 have joined the Pine Ridge IHS medical staff. Only 1 was obligated to "pay back" the IHS. He chose Pine Ridge "because of the residency rotation." The "best" part of his work was the "people". Another had a commitment to pay off a loan by returning to a Public Health Service (PHS) facility, but he could have gone to any PHS site even if it were not with the IHS. His reasons for choosing Pine Ridge were "multiple but primarily related to the Indian culture" and the "tremendous need for physicians at Pine Ridge". The third physician had no commitment to either the IHS or PHS. He returned to Pine Ridge because he "likes the Lakota people and history and their culture" and because they "need help".

We are currently in our third year of the grant, and confident funding will continue through the 5 years of the project. The program has attracted the attention and interest of other IHS Service Units within the state and nation.

CONCLUSION

Early results of this program are encouraging. All residents have found the experience very rewarding. The rotation is a true primary care experience, and residents leave Pine Ridge with knowledge of the healthcare model of the IHS, and an understanding of the challenge of living in a geographically isolated area and providing health care to a medically underserved population. We believe the residents favorably impact the provision of health care to the Pine Ridge community through direct patient care and health education. As anticipated, the cultural exposure and opportunity to gain some insight into the healthcare beliefs of the Lakota people have been highlights.

The addition of 3 rotation "graduates" to the Pine Ridge medical staff is heartening. Ideally, current physicians, as well as those yet to be recruited, will make long term commitments to Pine Ridge. We believe the positive relationship which has developed between the University of South Dakota School of Medicine, the Pine Ridge, and more broadly Aberdeen Area IHS, will continue to prosper and that our cooperative efforts will assist in stabilizing the professional medical staff at Pine Ridge. If this goal is achieved in the long term, and given the current interest and enthusiasm the project has generated, it is hoped the program can be expanded to other IHS facilities in South Dakota and that medical student rotations can be integrated into the program.

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REFERENCES

1. Vogt HB, Jerde OM: Pine Ridge IHS primary care resident rotation. *SD J Med* 1992;45(9):263-265.



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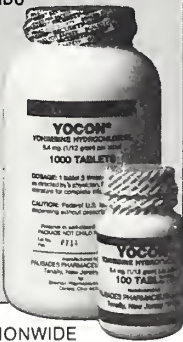
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References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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Pink Flags

- Extremely low or high work volume
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- Malpractice suits
- Drinking a lot of fluids
- Large gain or loss in weight
- Social withdrawal/Unexplained absences
- Conducting rounds at unusual hours
- Falling behind in charts, forgetfulness

Red Flags

- Arrest for DWI
- Alcohol on breath, withdrawal tremors
- Personality change
- Neglecting medical staff duties
- Missing appointments with patients
- Inappropriate or dangerous orders
- Unusually high doses or wastage in drug logs

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The flags were developed by Tom Anderson, MD and from the St. Paul Fire and Marine Insurance Co. Human Factors Guide: "Physician Alcohol and Drug Impairment".

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**Patti Herlihy, President, South Dakota
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We are blessed with the most talented, ingenious and simply wonderful children in the entire world. How can the use of illicit drugs by teenagers possibly be on the rise again? More than \$120 billion has been spent since the early 1980's in an attempt to cut off the supply of these illicit drugs into the United States. Have we been lulled into a false sense of security in the last few years?

An article in the *Rapid City Journal* (2/1/94) entitled "Illicit Drug Use by Teens Rises" targeted this very issue. The article stated "Illicit drug use by teenagers increased significantly between 1992 and 1993, driven by a dramatic rise in the use of marijuana and increases in the use of stimulants, LSD and inhalants." An annual survey begun in 1975, sponsored by the National Institute on Drug Abuse, reported these results of nearly 50,000 eighth, tenth, and twelfth-grade students nationwide. Health and Human Service Secretary Donna E. Shalala reacted by stating "these findings are more than a warning signal, they are an urgent alarm we must heed at once."

Prevention programs have been proven to work; following carefully controlled studies, new drug use was decreased by one-half and new alcohol use by one-third. Experimentation with illicit drugs often starts early, while initiation of cigarette smoking now occurs

almost entirely during adolescence, according to the AMA's Healthy Youth 2000 campaign. Reducing or stopping this first contact with smoking and illicit drugs by youth is an important priority of Healthy Youth 2000, which is a program designed to foster an increased awareness of the dangers of tobacco, alcohol and illicit drugs by adolescents and young adults. Drug use among young people appears to develop in predictable stages, consistent with the "gateway" concept. Experimentation with drugs usually begins with cigarettes, alcohol or marijuana, and then progresses to other drugs. Use of drugs at preteen ages, especially these gateway drugs, appears to predict both greater involvement with alcohol and other drugs and less likelihood of recovery. Initiation is more sensitive to intervention than is quitting behavior. Young adults are unlikely to develop alcohol and drug problems if the age of first used is delayed beyond childhood and adolescence.

A failure of policy has been cited as a major reason why illicit drug use continues to remain such a problem. Mathea Falco in her book *The Making of a Drug Free America-Programs That Work*, explains that traditionally the attempted solution has involved law enforcement; officials have struggled to cut off supplies from foreign countries thereby driving up prices which should in turn dry up use. However, heroine and cocaine are actually cheaper and more available today than ever before. We are spending more money trying to stop incoming drugs than in education and treatment programs to prevent this problem in the first place. Mrs Falco believes that the answers to America's drug problems lie right here at home in our schools, neighborhoods and families-not on the high seas.

Social influences are also most important as children learn from their environment. We should target fifth, sixth and seventh graders to teach them to recognize social influences that might tempt them; they need to learn how to deal with these temptations. A consistent message must be created and pursued at all levels of the community. Adult drinking should be banned at all school functions. Our society maintains an ambivalent attitude toward alcohol which makes our task even more difficult. Social attitudes are extremely powerful and shape the way we make decisions. School health education can foster healthful behaviors and help prevent harmful ones. Tobacco-free environments can be established and tobacco use, alcohol and drug prevention can be included in the curricula of all elementary, middle and secondary schools.

"Now more than ever, we need to counter erroneous messages that glamorize the use of illicit drugs, alcohol and tobacco," said Richard A. Millstein, acting director of the National Institute on Drug Abuse. Prevention,

education, treatment and community involvement can and will really make a dent. As members of the Alliance, we should take an active role in prevention programs. But first, we need to understand the problem of alcohol, tobacco and drug abuse ourselves and teach our children and grandchildren to recognize and make the correct choices. We cannot wait for anyone else to do this for us — these children are our future.

Janni Rutledge

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A Prescription For a Prescription: The Treatment For Adverse Drug Reactions

Paul L. Price, Pharm.D, Sioux Falls, SD

Adverse drug reactions (ADRs) make up part of the risks taken in exchange for the benefits of modern drug therapy. It is estimated, though, that half of these ADRs could be avoided, and in general when drugs are used correctly, toxicities are minimized.^{1,2}

There is a wide variation in the reported frequency of ADRs in the literature due to the population studied, the study method, and the definition used for an ADR.^{1,3} Five percent of patients treated with a medication are estimated to have an ADR.² Hospitalized patients who have been treated with more than 16 different drugs have a 40% probability of developing an ADR.⁴ Another estimate indicates that 10% to 30% of hospitalized patients will experience an ADR.^{3,4} Also, patients who have experienced an ADR in the past are two to three times more likely to experience another one when compared to those who have not experienced an ADR.⁴ Reported admissions to hospitals due to ADRs is estimated to be 5% with a range of 0.2% to 21.7%.²⁻⁵

In general, adverse drug reactions play an important role in morbidity and mortality in relation to drug therapy.^{2,4} The estimated cost in the United States for the screening, diagnosis, and therapy of ADRs is approximately three billion dollars a year. This cost, along with the added cost of screening for ADRs and the added legal costs, increases the cost of drug development, which in turn raises the cost of the new drug therapies. ADRs, therefore, present the health care professional with a significant challenge.²

A definition of an adverse drug reaction is necessary. The Food and Drug Administration and the World Health Organization both provide definitions of ADRs, however the Joint Commission on Accreditation of Healthcare Organizations states that institutions can develop a definition for their own individual situations. For example, "An adverse drug reaction is any response to a drug that is harmful and unintended and that occurs at doses used in humans for prophylaxis, treatment, or diagnosis, excluding therapeutic failures, and is not an extension of the pharmacological action of the drug".¹

ADRs can be classified into two groups in addition to their basic definition. The first group is called predictable or type A. These usually entail an exaggerated or unexpected extension of the pharmacological activity of the drug. For example, a patient presents with a diuretic induced hypokalemia. Type A reactions are frequently dose-dependent, and may be due to a con-

comitant disease, drug-drug interaction or drug-food interaction. Approximately 80% of ADRs are of this type. They are rarely life-threatening, but can produce significant disability. Management of this type is relatively simple since they often respond to changes in dosage or schedule of administration, and therefore represent the greatest opportunity for decreasing morbidity and mortality. The second group is called unpredictable or type B. These are usually either an idiosyncratic reaction, immunologic reaction, or an allergic reaction. Allergic reactions can be further classified as one of four types. These are as follows, type I, an immediate or anaphylactic reaction, type II, a cytotoxic reaction, type III, serum sickness, type IV, a delayed allergic reaction. A few examples include aplastic anemia with chloramphenicol and Stevens-Johnson syndrome with phenytoin. Type B reactions are rare but potentially very serious, and are not an extension of pharmacological activity. Also, they are independent of route of drug administration and of dose.^{1,2,4}

Various studies and reports show differing classes of drugs most implicated in ADRs. The FDA reports that the top classes include: CNS agents; antibiotics; anti-hypertensives; NSAIDs; diagnostic agents; hormones; and cardiovascular agents. Other studies show anticoagulants, narcotic analgesics, and antineoplastics as also potentially significant.^{1,4,6} These variations probably occur due to study design, types of patients involved, and the ADR definition used. At this point, what other risks to developing ADRs, besides drug classes, should be considered by health care professionals?

Polypharmacy appears to be an area of importance when discussing potential causes of ADRs. Polypharmacy can be defined as any drug regimen which includes at minimum one unnecessary medication. This increases the chance of having an ADR in 2 ways. One is the potential for the added agent to cause an ADR in its self, and a second would be for the potential of inducing a drug-drug interaction leading to a type A adverse reaction. Another complication resulting from polypharmacy with ADRs is the difficulty in determining which drug is now causing the ADR.⁷ Polypharmacy can occur in any age group, but appears to occur more frequently in the elderly which is another important factor in evaluating what patients are at risk for an ADR.

The elderly, defined by most studies, includes patients greater than age 65. A recent study has shown though, that age is not an independent risk factor for ADRs in a hospital setting. Age, especially in the elderly group, appears to be important if other items are also included. The elderly usually are on several drugs concurrently which can lead to noncompliance. They also have multiple pathologies which in turn leads to multiple drug therapies and subsequently ADRs.^{7,8} Other contributing factors in this group include altered pharmacokinetics and altered pharmacodynamics.⁸ Patients with a more predictable risk of developing an ADR include those on certain classes of drugs, those in which polypharmacy is being practiced, and those in the multifactorial elderly age group.

In conclusion, modern drug therapy is very beneficial to all with only a minimal potential for toxicity when appropriately managed. The prevention of these toxicities, or ADRs, becomes the responsibility of health care professionals. This management for the prevention of ADRs could include:^{7,8}

1. consider the individual patient's disease state(s)
2. avoid giving a drug for every symptom
3. simplify the drug regimen
4. consider the individual patient's pharmacokinetic needs
5. reevaluate the drug regimen on a regular basis
6. provide appropriate patient education

The application of these management items and the awareness of adverse drug reactions should help to reduce the risks for the development of ADRs.

REFERENCES

1. Koch KE: Adverse drug reactions. In Brown TR (Ed) Handbook of institutional pharmacy practice, 3rd ed, pp 279-291. American Society of Hospital Pharmacists; Special Projects Division, Bethesda, MD, 1992.
2. Rieder MJ: Immunopharmacology and adverse drug reactions. *J Clin Pharmacol* 1993;33:316-323.
3. Sweet BV, Ryan ML: Re-evaluating reporting rates for adverse drug reactions. *Am J Hosp Pharm* 1994;51:122.
4. Classen DC, Pestotnik SL, Evans RS, Burke JP: Computerized surveillance of adverse drug events in hospital patients. *JAMA* 1991;266:2847-2851.
5. Einarson TR: Drug-related hospital admissions. *Ann Pharmacother* 1993;27:832-840.
6. Leape LL, Brennan TA, Laird N, et al: The nature of adverse events in hospitalized patients: results of the Harvard medical practice study II. *N Engl J Med* 1991;324:377-384.
7. Colley CA, Lucas LM: Polypharmacy: the cure become the disease. *J Gen Intern Med* 1993;8(5):278-283.
8. Beard K: Adverse reactions as a cause of hospital admission in the aged. *Drugs Aging* 1992;2(4):356-367.



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- May 4 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Robert Piepho, PhD, Topic: Differentiation of Calcium Channel Blockers, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- May 5 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Michael Robinson MD; Topic: Oncology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- May 5 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- May 5 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- May 5 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To Be Announced, Dr. James Ruggles, Info: 665-9002.
- May 5 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- May 5 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- May 6 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: Michael Robinson, MD; Topic: Oncology; Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
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- May 10 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- May 11 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- May 11 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- May 11 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Drs Fred Lovrien & Leonard Gutnik, Topic: Lymphedema, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- May 12 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- May 12 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- May 12 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To be announced, To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- May 12 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- May 12 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- May 12 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- May 13 **Cardiac Symposium**, Howard Johnson Convention Center, Rapid City Regional Hospital, Info: Lorna Ogle - 341-8013.
- May 13 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- May 17 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- May 18 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:30 pm CDT/CT--repeated 12:30 pm MDT/MT; Speaker: Steven Wengel, MD; Topic: Depression in the Elderly; Info: Connie Kleinsasser, USDSM - 339-6638.
- May 18 **Geriatric Forum** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- May 18 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, Info: David Rossing, MD, 331-3490.
- May 18 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Heinz-Gerd Zimmer, MD, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

May 19 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

May 19 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

April 19 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

May 19 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.

May 19 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.

May 20 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

May 20 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.

May 23 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.

May 25 **Trauma Conference**; - McKennan Auditorium; 2 hours AMA/PRA credit; Info: 339-7739.

May 25 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.

May 25 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: Clinical Pathology Conference, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

May 26 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

May 26 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

May 26 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.

May 26 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

May 26 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).

May 27 **Morbidity/Mortality Conference** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.

May 27 **Tumor Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

May 27 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

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June 1 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

June 2 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

June 2 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To Be Announced, Dr. James Ruggles, Info: 665-9002.

June 2 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).

June 2 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

June 2 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

June 3 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

June 3 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.

June 3 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

June 3 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).

June 7 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

June 8 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

June 8 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.

June 9 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).

June 9 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

June 9 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

June 9 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

June 9 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To be announced, To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.

- June 9 Cardiac Cath Conference - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- June 10 Pathology Conference - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- June 13 Tumor Board - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- June 14-16 ACLS Provider - 19.75 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
- June 14 Breast Cancer Conference - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- June 15 Clinical Path Conference - 7:30 am, Sioux Valley Hospital Auditorium, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- June 15 Geriatric Forum - 7:00 am, RDT Network Studio, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- June 15 CPC Wednesday Noon Conference - 12:00 noon, 4th Floor Conference Rooms, Info: David Rossing, MD, 331-3490.

MISCELLANEOUS MEETINGS

MAY

- May 8-13 26th National Conference on Breast Cancer, Clinical Update, Marriott's Desert Springs Resort, Palm Desert, CA. Fee: \$650. 30.5 hrs AMA Category 1 credit. Contact: American College of Radiology, 26th Nat'l Conf on Breast Cancer, PO Box 2348, Merrifield, VA 22116-2348.
- May 13-14 Black Hills Cardiac Symposium, Howard Johnson Conv Ctr, Rapid City, SD. 8.5 hrs AMA Category 1 credit. Contact: Lorna Ogle, Rapid City Reg Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- May 18 Update in Thoracic Surgery, Washington Univ Med Ctr, St. Louis, MO. Contact: Cathy Sweeney, Off CME, Washington Univ School of Med, Campus Box 8063, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- May 25-28 17th Annual National Conference on Rural Health, Hyatt Regency, San Francisco, CA. Fee: \$400. AMA Category 1 credit avail. Contact: NRHA Conference, One W Armour Blvd, Suite 301, Kansas City, MO 64111. Phone: (816) 756-3140.
- May 27-29 Family Medicine Update, Okoboji, IA. Contact: Sally C. O'Neill, Ph.D., Assoc Dean, Creighton Univ CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.

JUNE

- June 12-15 Nuclear Antigens as Targets for Cancer Therapy, Red Lion Hotel, Omaha, NE. Contact: Cnt for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- June 15-17 17th Annual Black Hills Seminar: Advances in Clinical Pediatrics, Rushmore Plaza Holiday Inn, Rapid City, SD. AMA Category 1 credit avail. Contact: Lawrence R. Wellman, MD, USD School of Medicine, 1100 S Euclid Ave, PO Box 5039, Sioux Falls, SD 57117-5039. Phone: (605) 333-7178.
- June 16 Geriatric Forum: Making the Nursing Homes an Easier Place to Practice, an interactive video program being broadcast on the Rural Development Telecommunications Network (RDTN). Contact: Lorna Ogle, Rapid City Regional Hosp, 353 Fairmont Blvd, Rapid City, SD 57701. Phone: (605) 341-8013.
- June 30 - July 1 Emergency & Critical Care Conference, Village East, Okoboji, IA. Contact: Pat Sivesind. Phone: (605) 339-6790.



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Indications, Complications, and Long-Term Results of Percutaneous Endoscopic Gastrostomy: A Retrospective Study

Usha R. Ganga, MD, John J. Ryan, MD, FRCS, and Larry W. Schafer, MD

ABSTRACT

The purpose of this study was to determine the indications, success rate, procedure related complications, duration of tube feeding and long-term outcome in 35 consecutive patients in whom we attempted a percutaneous endoscopic gastrostomy (PEG). All procedures were performed in a small University affiliated VA Medical Center Between July 1988 and June 1991 by the same team. Follow-up continued until death or October 1992. The most common indications for PEG were neurologic disorders ($n = 30, 90\%$). PEG was successfully placed in 32 (91%) of the 35 patients. There was no procedure related mortality. Complications occurred in 43% of patients, most of which were minor (97%). In seven patients (22%), tubes were removed as eating was resumed. Two patients died within 30 days of tube placement. Most of the deaths occurred between one and six months (40%) after tube placement. Pneumonia was the most common cause of death and was attributed to aspiration of oropharyngeal secretions. Our experience suggests that PEG is safe and has a low complication rate, even in patients with multiple medical problems.

Percutaneous endoscopic gastrostomy (PEG) and nasogastric tube are two common routes to provide enteral alimentation for patients who are unable to eat adequately, but who have a functional gastrointestinal tract. However, for long-term nutritional support, percutaneous endoscopic gastrostomy is the procedure of choice. Nasogastric tube is inconvenient and is frequently associated with self extubation.¹ PEG is associated with a high success rate and low morbidity and mortality.²⁻¹¹ Most of these data were obtained from tertiary care medical centers. We present the indications, success rate, procedure related complications, and long-term results of PEG in patients with multiple medical problems in a small University affiliated VA Medical Center. We compare our data to the data obtained from larger medical centers.

MATERIALS AND METHODS

We reviewed the records of 35 consecutive patients in whom a percutaneous endoscopic gastrostomy (PEG) tube insertion was attempted between July 1988 and June 1991. In-patient, out-patient, and nursing home records were reviewed to establish each patient's condition before and after PEG placement. We determined the condition that necessitated PEG placement

and whether aspiration was a major problem before and after PEG insertion. We also obtained the following data: age and sex, co-morbid conditions (diabetes, hypertension, cancer, atherosclerotic cardiovascular disease, chronic obstructive pulmonary disease), success rate, procedure associated mortality and complications, duration of tube feeding, and cause of death. Follow-up continued until death or October 1992. All patients were evaluated by a gastroenterologist who determined whether long-term tube feeding was needed and whether a gastrostomy tube should be used for that purpose.

All procedures were performed by the same team in an endoscopy suite. All procedures were done on hospitalized patients. Prophylactic parenteral antibiotics were given routinely. Pharyngeal spray and intravenous sedation were used. Initially a brief endoscopic examination was performed to insure that no significant pathology was present in the esophagus, stomach or duodenum. The stomach was then insufflated with air, the anterior abdominal wall was transilluminated, and a site for gastrostomy was chosen where the light was best seen. We used modification⁶ of the method of Ponsky and associates^{2,3,4} for PEG. Instead of suturing the skin to the external catheter, we

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used a face plate at the exit site of the catheter to hold the catheter in position.

The gastrostomy tube was not used for feeding for 24 hours. The feedings were then administered by a constant perfusion pump with the patient in a sitting or semi-recumbent position to minimize gastroesophageal reflux. In addition, gastric residual was measured every two hours for 24 hours to ensure proper gastric emptying.

RESULTS

Patient description and indication for procedure:

PEG insertion was attempted in 35 patients ranging in age from 38 to 92 years (mean 64 years). All patients were men. The most common indication for gastrostomy tube placement was hemispheric stroke (40%) followed by other neurologic disorders (Table I). Oropharyngeal cancer was seldom an indication in this series. Almost half of the patients (48%) had at least two co-morbid conditions.

TABLE I REASONS FOR PLACEMENT OF PEG		
Indications	#	%
1. Hemispheric Stroke	14	40
2. Multiple Sclerosis	5	14
3. Other CNS Conditions*	12	33
4. Oropharyngeal Cancer	1	3
5. Other**	3	10

*Alzheimers disease in three patients, multi-infarction dementia in five patients, dementia of unclear etiology in one, head trauma, intracranial bleeding and subarachnoid hemorrhage in one patient each.

**Metastatic lung cancer in two patients and malnutrition in one patient.

Technique:

All patients received prophylactic antibiotics (cefazolin 1 gm intravenously prior to the procedure). Those patients who were already receiving antibiotics at the time of the procedure did not receive prophylactic antibiotics. Intravenous sedation was used in all patients (generally diazepam). All the procedures were performed while patients were hospitalized. Mean procedure time was less than 30 minutes.

Success rate:

Gastrostomy tube was successfully placed in 32 of 35 patients (91%). In three patients the procedure was unsuccessful (Table II) because of a large hiatal hernia, inability to advance the endoscope secondary to severe cricopharyngeal spasm, and obesity.

TABLE II		
	Failures	#
1.	Cricopharyngeal Spasm	1
2.	Large Hiatal Hernia	1
3.	Obesity	1

Complications:

There was no procedure related mortality. A total of 35 complications were encountered in 14 of 32 patients (43%) (Table III). The only major complication was gastric hemorrhage. The most common minor complication was tube dislodgement. Gastrostomy tube was re-established by inserting a foley catheter through the sinus tract. Clogged tubes were de-clogged with a water flush. Stomach content leakage from around the catheter was treated with stoma adhesive and silver nitrate. Wound infection did not occur in our study.

TABLE III		
Complications	Occurrences (#)	Patients (#)*
Major		
Gastric Hemorrhage	1	1
Minor		
Tube Dislodgement	9	5
Tube Migration	2	2
Stomal Leak	4	4
Clogged Tube	9	5
Conversion of PEG	11	7

*Some patients had the same complication several times and some patients had more than one type of complication. Fourteen of 32 patients had complications.

Long-term results:

Seven patients regained the ability to eat. In each of these patients, the gastrostomy tube was removed either by pulling it out or cutting it off at the exit site. Five patients had the tube pulled out accidentally. The gastrostomy tube was replaced with a foley catheter through the gastrocutaneous fistula. One patient pulled out the tube before a good fistula was formed and subsequently required repeat PEG.

Thirty day mortality for PEG patients was 6% (two patients) (Table IV). Both died from systemic infection. Most of our patients (80%) who continued to receive enteral alimentation, died within one year. The death was related either to the illness that necessitated PEG placement or to co-morbid conditions. Clinical evidence of recurrent aspiration was noted in 14 patients prior to PEG placement and half of them died from pneumonia. Four patients received enteral feeding through the PEG for more than one year and two for more than two years without significant complications.

TABLE IV
CAUSE OF DEATH AFTER PEG (1988 Thru 1991)

Cause of Death	Time of Death					
	0-30 Days		31 Days-1 Yr		> 1 Yr	
	#	%	#	%	#	%
1. Pneumonia	1	3	7	21	2	6
2. Other infections*1	3		2	6	0	0
3. Cardiac	0	0	6	18	0	0
4. Other**	0	0	3	9	1	3

*Sepsis due to urinary tract infection in two patients and sepsis of unclear origin in one patient.

**Terminal lung cancer in two patients, oropharyngeal cancer and gangrenous bowel in one patient each.

DISCUSSION

Since its initial clinical description in 1980, percutaneous endoscopic gastrostomy has gained popularity since it offers many advantages over conventional surgical gastrostomy.¹¹ PEG can almost always be successfully performed (91% in our series) and has a low rate of procedure related major complications (3%). There were no procedure related deaths. The only major complication was a gastric hemorrhage in a patient with Budd-Chiari Syndrome which required intensive care monitoring and blood transfusions. The outcome was uneventful. The most common minor complication was tube dislodgement. Most of the dislodged and migrated tubes were replaced with Foley catheters. One patient required a repeat PEG because he pulled the tube out before a gastrocutaneous fistula was formed. Wound infection did not occur in this series. We attribute this to the use of prophylactic antibiotics. Jain et al clearly established in a prospective study that the risk for peristomal wound infection associated with PEG was significantly reduced from 30 to 7% with prophylactic cefazolin.¹²

We found that only two patients died within 30 days of PEG placement. Both of the patients died from infection, one from pneumonia and the other from urosepsis. The 30 day mortality was much higher in major health care centers.^{8,9} We believe that acutely ill patients with a short life expectancy tend to undergo percutaneous

gastrostomy more often in tertiary health care centers than in primary care hospitals. This might explain the disparity in early mortality rate between our study and other studies. By contrast, our 6 month (48%) and one year (80%) mortality rates were much higher. This might be related to the older age and multiple co-morbid conditions in our patient population. A recent study from Mayo Clinic demonstrated that the overall and predicted 30 day and one year survival decreased with increasing age, in diabetic patients, in females, and was related to the primary problem that prompted referral for PEG placement.⁹ The authors concluded that PEG may not be justified in a patient with a short life expectancy because of the primary disease or co-morbid condition. We concur with those findings and believe that our study results reflect their findings.

SUMMARY

Our experience suggests that PEG can be performed safely in a primary care hospital with comparable success and complication rate to major tertiary care hospitals (Table V). Tube dislodgement is common and frequently necessitates tube replacement. Wound infection can be prevented with the use of prophylactic antibiotics. The gastrostomy tube can be removed easily in those patients who regain the ability to swallow.

Table V
Comparison of Studies
Retrospective Studies

Study	# of Patients	Uncomplicated Placement	Morbidity	Mortality
1. Stroedel 1983	45	96%	15%	8.8%
2. Larson 1983	23	100%	10%	0%
3. Ponsky 1984	323	100%	5.9%	0.3%
4. Thatcher 1984	16	76%	18.8%	0%
5. Russell 1984	28	100%	11%	7%
6. Miller 1986	100	100%	0%	0%
7. Larson 1987	314	95%	3%	1%
8. Taylor 1992	97	94%	27%	0%
9. This Report	35	91%	3%	0%
Prospective Studies				
1. Hogan 1986	40	82.5%	42.5%	15%
2. Stiegmann 1987	23	100%	21.7%	0%

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AUTHORS

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REFERENCES

1. Ciocon JO, Siverstones FA, Graver ML, Foley CJ: Tube feedings in elderly patients. *Arch Intern Med* 1988;148:429-433.
2. Stroedel WE, Eckhauser FE, Lemmer JH, Aitham M, Dent TL: Early experience with endoscopic percutaneous gastrostomy. *Arch Surg* 1983;118:449-453.
3. Larson DE, Fleming CR, OH BJ, Schroeder KW: Percutaneous endoscopic gastrostomy. *Mayo Clinic Proc* 1983;58:103-107.
4. Ponsky JL, Gauderer MWL, Stellato TA, Aszod A: Percutaneous approaches to enteral alimentation. *Am J Surg* 1985;149:102-104.
5. Thatcher BS, Ferguson DR, Paradis K: Percutaneous endoscopic gastrostomy: A preferred method for feeding tube gastrostomy. *Am J Gastroent* 1984;79:748-750.
6. Russell TR, Brotman NF: Percutaneous gastrostomy: A new simplified and cost effective technique. *Am J Surg* 1984;148:132-137.
7. Miller RE, Kumer BA, Fiszenkel HI, Kotler DP: Percutaneous endoscopic gastrostomy: Procedure of choice. *Ann Surg* 1986;204:543-545.
8. Larson DE, Burton DD, Schroeder KW, DiMagno EP: Percutaneous endoscopic gastrostomy: Indications, success, complications, and mortality in 314 consecutive patients. *Gastroent* 1987;93:48-52.
9. Taylor CA, Larson DE, DiMagno EP et al: Predictors of outcome after percutaneous endoscopic gastrostomy: A community based study. *Mayo Clin Proc* 1992;67:1042-1049.
10. Hogan RB, Debarco DC, Hamilton JK, Walker CO, Polter DE: Percutaneous endoscopic gastrostomy: To push or pull. *Gastro Endoscopy* 1986;32:253-258.
11. Stiegmann G, Goff J, Vanway C, Pearlman N, Norton L: Operative versus endoscopic gastrostomy: Preliminary results of a prospective randomized trial. *Am J Surg* 1988;155:88-92.
12. Jain NK, Larson DE, DiMagno EP, et al: Antibiotic prophylaxis for percutaneous endoscopic gastrostomy: A prospective, randomized double-blind clinical trial. *Ann Intern Med* 1987;107:824-828.

South Dakota Society Of Pathologists





**Patti Herlihy, President, South Dakota
State Medical Association Alliance**

An Urgent Message

The culmination of another year is upon us. What does this mean? Can we truly say that we have made progress in our efforts to face the incredible challenges of the medical profession today? Have we become more informed and involved regarding medical issues? Do we CARE about these issues? Though these are very tough questions, they must be answered honestly.

The staff of the South Dakota State Medical Association is indeed a competent group, but they can achieve even more with our help. Membership is critical; without the support of each of us our bargaining power is greatly diminished. Even though we agree that the Clintons' health care proposals need much revamping, do we expect someone else to do the work for us? There is not a health care crisis; we are being duped into this misconception by Clinton people such as Roger Altman, Deputy Secretary of the Treasury Department and a Clinton health care salesman. Quoting an article in the *Dallas Morning News*, dated April 7, 1994, regarding health bill passage in 1994, Altman says "It will be (approved) because Americans have now gotten to the point where they think our health care system is broken. They think there is a crisis and that we must fix it." How could our membership possibly be

decreasing in numbers in light of such grave consequences if we do not intercede as a group?

The election process is about to surge into full realization with primaries on the horizon. Where will we be? Hopefully not waiting for someone else to step in on our behalf. We simply cannot afford it.

The SDSMA Alliance is blessed with a gifted new president, Helen Owens, and another dedicated state board. However, they need each one of us, giving our continued support, to be successful. I have never found that the "importance of the individual" could be more apparent than right now. Individual members can be involved in such activities as legislative issues, health projects, fund-raising for AMA-ERF and membership development. The challenge is there for each one of us — how will YOU respond? Yes, we are ALL too busy, too tied up with so many other responsibilities. However, what could be of greater importance than the support of our spouses' profession and thus the health care of every one of us? Joint meetings with our district medical societies are crucial to keep our link strong and our purpose unified. An active Alliance is ideal; however, if our membership is greatly scattered and can meet but twice a year, how much better that we keep this connection alive and working. My gravest concern is the threat of districts becoming inactive; we need each one of you to present a strong front. The need to function together as an organized Alliance cannot be more important or greatly stressed.

As I reflect on this past year, I know that I have personally gained a great deal from my experiences and relationships. Thank you for the tremendous honor; I wish each of you could be given the same opportunity. The potential for South Dakota is what we want to make of it — the possibilities are within our reach — we need to grasp the situation and focus on the future of medicine as we believe it should be. South Dakota is filled with loving, concerned, committed individuals. We have so very much to be proud and thankful for; this special heritage should be preserved. Good Luck to 1994-1995!

Patti Herlihy

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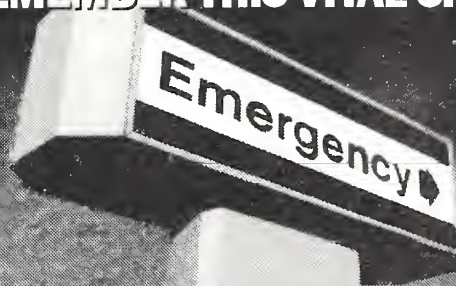
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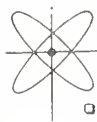
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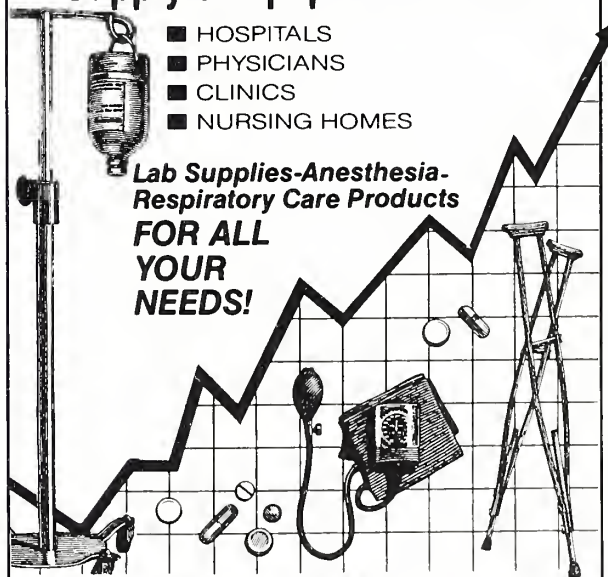
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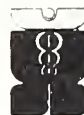
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Erythromycin Induced Torsades de Pointes: Case Report and Review of the Literature

Maher A. Rezkalla, MD and Cindi Pochop, MD

ABSTRACT

We report a case of an 82 year old woman with bilateral pneumonia who developed repeated episodes of polymorphic ventricular tachycardia with QT prolongation (Torsades de Pointes) after intravenous infusion of erythromycin. After discontinuation of erythromycin, the QT interval returned to normal and there was no recurrence of this arrhythmia. The association of intravenous erythromycin and this potentially fatal ventricular arrhythmia has been described in 15 similar cases reported in the literature. Both in vitro and in vivo studies have shown that erythromycin exerts electrophysiologic effects on the cardiac muscle similar to that of class IA antiarrhythmic drugs and that cross sensitivity may exist between this class of drugs and erythromycin. The definition, pathophysiology, etiology, clinical and electrocardiographic feature, and prevention and treatment of "Torsades de Pointes" are described in this article.

An 82 year old white female was admitted to the hospital with bilateral pneumonia, mild congestive heart failure, and mild chronic obstructive pulmonary disease. She was treated with intravenous antibiotics, intravenous furosemide, and bronchodilators. Over the next several days, her condition deteriorated and she developed a non Q-wave myocardial infarction, which required mechanical ventilation and pressor agents to maintain her blood pressure. On the sixth hospital day, she started to exhibit increasing cardiac ectopy which had progressed to a polymorphic ventricular tachycardia, believed to be Torsades de Pointes. (Figure 1) Medications at that time were furosemide, cefotaxime, corticosteroids, ranitidine, aminophylline, dopamine, dobutamine, lidocaine, and erythromycin. Her serum potassium, magnesium, and calcium levels were all within normal. Blood urea nitrogen level was 25 mg/dl (1-22) and serum creatinine level was 1.1 mg/dl (0.7-1.3). She had normal serum levels of glutamate pyruvate and oxalate transaminases but a mildly elevated lactic

dehydrogenase level. Although the serum aminophylline level was within normal limits, the drug was discontinued as a precaution. Pressor agents were also discontinued. However, repeated episodes of Torsades de Pointes continued to occur. Although the myocardial infarction was initially blamed for these episodes of Torsades, review of the patient's records showed that each episode of Torsades occurred 30-45 minutes after

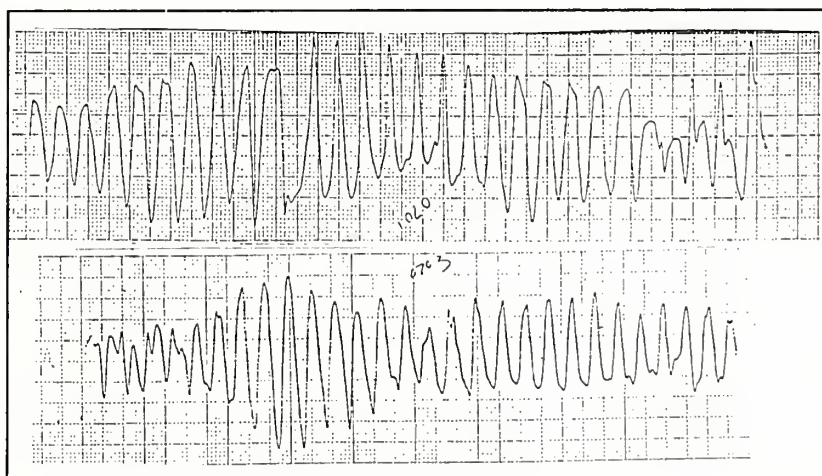


Figure 1

Note the typical undulating configuration of the QRS complexes as they twist around the isoelectric line.

erythromycin infusion. Review of her electrocardiograms also revealed that the QT interval had (progressively) increased since starting erythromycin intravenously. (Figure 2) Erythromycin was discontinued. She had no more episodes of Torsades after that and the QT interval returned to normal.

Admission EKG	-QT-.263	QTc-.387
Day 2	-QT-.333	QTc-.440
Day 3	-QT-.340	QTc-.464
Day 4	-QT-.377	QTc-.517

Figure 2

DISCUSSION

Torsades de Pointes or "twisting around the point".

The sine qua non of Torsades de Pointes or "twisting around the points" is the characteristic twisting of the ventricular complexes or the continuously changing morphology of the QRS complex twisting around an imaginary baseline.¹ (Figure 1) An additional requirement for a ventricular tachycardia to be defined as Torsades de Pointes is the accompanying prolongation of the QT and QTU interval that often precedes the development of the tachycardia. Given the variety of circumstances under which Torsades have been described, several additions have been made to the definition of this arrhythmia. Brugada² suggested that the diagnosis requires the initiation of the tachycardia by a late extrasystole. Surawicz³ proposed that the arrhythmia has to be suppressible by an increase in heart rate. Jackman, et al,⁴ proposed that even in absence of the twisting morphology of the QRS, a tachycardia associated with abnormal TU complexes could still be called Torsades de Pointes.

Pathophysiology:

In spite of several efforts and almost three decades of work from various groups, there is still no universally accepted mechanism that explains the various aspects of this peculiar arrhythmia.

Dessertenne⁵ first postulated in 1966 the presence of two competing foci of ventricular activity, one initiating QRS complexes pointing upwards and the other initiating complexes pointing downward - the transition from one focus to the other generates a Torsades de Pointes. Although his theory was rapidly dismissed at the time, it is now considered by many as the most acceptable theory for the twisting morphology of the QRS complexes.

The actual cause of the action potentials that initiate and sustain Torsades is not known. One of the most appealing theories is the short-long-short sequence theory first described by Kay, et al, in 1983 and later confirmed by Roden, et al,⁶ in 1986. They both reported that the cardiac cycle immediately preceding

the last sinus beat was abnormally prolonged (often a compensatory pause following a ventricular beat. (Figure 3) The last sinus beat preceding the development of Torsades had a markedly prolonged QT interval, and the first

beat of the ventricular tachycardia often impinged on the terminal portion of the repolarization (R on T phenomenon). This characteristic pattern for the initiation of Torsades points to a "pause dependent" or

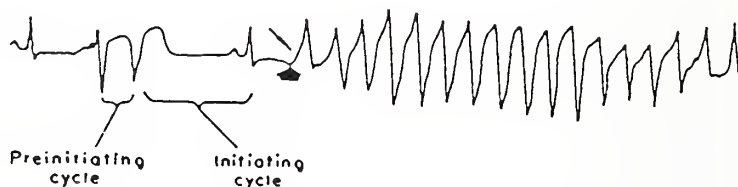


Figure 3

Electrocardiogram of a typical paroxysm of quinidine-induced torsades de pointes demonstrating the typical cycle length changes just before an episode. The tachycardia starts (light arrow) after the apex of the T wave (heavy arrow). In the vast majority of instances of quinidine-induced torsades de pointes, the "initiating cycle" is markedly prolonged and is longer than the "preinitiating" cycle. From Roden et. al. with permission from the American Heart Journal.

"bradycardia dependent" mechanism for the arrhythmia. Recent reports have also suggested that early or perhaps delayed afterdepolarizations may also play an important role in initiating Torsades de Pointes.⁷

Etiology of Torsades de Pointes.

Torsades de Pointes can be initiated by numerous conditions and agents. (Table I & II) Erythromycin has recently been added to the long list of drugs that can cause Torsades, and the association of intravenous infusion of erythromycin and the occurrence of ventricular tachycardia with prolonged QT interval (Torsades de Pointes) has been described in fifteen reported cases in the literature.

Both in vitro and in vivo studies have shown that erythromycin exerts an electrophysiologic effect on the cardiac muscles similar to that of Class IA antiarrhythmic drugs (e.g. quinidine) and that a cross sensitivity may exist between this class of drugs and erythromycin.^{9,10}

Nattel, et al,⁹ also pointed out in his in vitro experiments that the effects of erythromycin on the cardiac muscles and subsequently its ability to produce the acquired long QT syndrome is concentration dependent and that intravenously erythromycin is more likely than oral erythromycin to produce this syndrome because of the higher serum concentration achieved.

Recently Wilt, et al,¹¹ described four cases of haloperidol-associated Torsades de Pointes that developed in intubated patients with "intensive care unit delirium". Of special interest, a recent article by Makkar, et al,¹² reported that women are more prone than men to develop Torsades de Pointes during administration of cardiovascular drugs that prolong cardiac repolarization. He pointed out in his retrospective analysis that the pathophysiologic basis and the therapeutic implications of this gender disparity should be investigated further.

Clinical Features

Short runs of Torsades de Pointes may be asymptomatic. However, longer runs may produce the following clinical features:

1. Transient attack of palpitation, numbness, or angular chest pain without loss of consciousness.
2. Weakness, lethargy, and dizziness.
3. Sudden loss of consciousness, usually precipitated by exertion or emotional stress.

Table I
Pharmacologic Agents
Associated With Torsades de Pointes

- A. Antiarrhythmic agents
 1. Group Ia
 - Quinidine
 - Procainamide
 - Disopyramide
 2. Group Ib
 - Lidocaine*
 - Mexiletine*
 - Tocainide*
 3. Group Ic
 - Encainide*
 4. Group III
 - Amiodarone
 - Sotalol*
 - N-acetylprocainamide
 5. Group IV
 - Nifedipine*
 - B. Psychotropic agents
 - Phenothiazines
 - Thioridazine
 - Trifluoperazine
 - Chlorpromazine
 - Haloperidol**
 - C. Antidepressants
 - Amitriptyline
 - Imipramine
 - Maprotiline
 - D. Vasodilators
 - Fenoxidil*
 - Prenylamine*
 - E. Miscellaneous
 - Furosemide
 - Prednisone
 - Isoproterenol
 - Atropine
 - Terfenadine**
 - Astemizole**
 - Erythromycin**
- *rarely reported
**recently reported,⁸

Table II

Other Courses of Torsades de Pointes

- *Electrolyte abnormalities
 - Hypokalemia, hypocalcemia, hypomagnesemia
- *Cardiac
 - Myocardial ischemia/infarction
 - Myocarditis
 - Bradycardia
- *Neurologic
 - Subarachnoid hemorrhage
 - Cerebrovascular accident
- Congenital long QT syndrome
 - Jervell and Lange-Nielson
 - AR, congenital deafness
 - Romano-Ward
 - AD, no deafness

Table III

Electrocardiographic Features of Torsades de Pointes ("Twisting Around the Point")

1. Symmetrical multiform ventricular ectopic complexes (rate 150-300 BPM)
2. A prolonged QT interval >0.44 seconds (corrected).
3. Ectopy, bradycardia, or high-grade AV block
4. A "long-short" initiation sequence
5. Refractory to conventional therapeutic modalities
6. Revert spontaneously or progress to a more malignant arrhythmia

4. Sudden death.

The typical electrocardiographic features of Torsades de Pointes are shown in Table III.

Prevention of Torsades de Pointes

The prevention of Torsades de Pointes lies in the early identification and correction of other risk factors (e.g. hypokalemia) before giving a drug known to induce Torsades de Pointes. Obtaining a baseline EKG and measurements of both the QT and QTc intervals before giving a drug known to cause Torsades de Pointes is very helpful. A repeat EKG and measurements of both QT and QTc intervals should be done after one or two doses of the drug, or when a stable blood level of the drug is achieved, and when the dosage is increased. The avoidance of simultaneous use of drugs known to produce Torsades de Pointes individually (e.g. combination of disopyramide and amiodarone) is also very important. Physicians should also be aware that Torsades de Pointes may occur with drug levels that are within the therapeutic range especially with quinidine and disopyramide.

Therapy

The most important aspect of treating Torsades de Pointes is to prevent its occurrence. Short runs of Torsades de Pointes are frequently asymptomatic and require no immediate treatment. However, sustained symptomatic runs of Torsades de Pointes should be treated immediately with **direct current cardioversion**. While this is usually successful for treating acute episodes, its usefulness may be limited by the recurrence of the arrhythmia after successful cardioversion. **Temporary transvenous pacing** is by far the safest and most effective method of preventing recurrence of Torsades de Pointes. Ventricular pacing has been most commonly used and recommended although atrial pacing may also be used if adequate atrial ventricular nodal conduction is present.

Stern, et al,¹³ reported successful suppression of Torsades de Pointes with **intravenous magnesium sulfate** (1-2 gm intravenously) although no actual shortening of the QT interval was noted. Isoproterenol given as continuous intravenous infusion can be effective in certain individual patients by increasing the AV conduction and shortening the QT interval. Isoproterenol may cause deleterious effects such as an increase in myocardial contraction, heart rate, and oxygen consumption. These effects can precipitate angina or even myocardial infarction in patients with coronary artery disease. Isoproterenol also has significant arrhythmogenic effects in its own, with the ability to induce frequent and complex ventricular ectopy or even cause ventricular tachycardia or fibrillation. Isoproterenol may even provoke Torsades de Pointes in patients with the congenital prolonged QT syndrome.

While propranolol is associated with successful treatment of Torsades de Pointes associated with the congenital long QT syndromes, reports of its successful use when the arrhythmia is drug induced are rare and poorly documented.

Lidocaine, mexiletin, verapamil, bretylium, diphenylhydantoin, and even atropine have all been used successfully to suppress Torsades de Pointes. None of these drugs have proven to be consistently effective with many instances of failure reported.¹³

CONCLUSION

Torsades de Pointes is a peculiar type of ventricular tachyarrhythmia characterized by the twisting of the QRS complexes around an imaginary isoelectric line. It most commonly occurs as an iatrogenic complication from use of certain drugs. Our case, as with other similar cases, confirm the association between intravenous erythromycin and Torsades de Pointes. Studies have shown that erythromycin exerts electrophysiologic effects on the cardiac muscle similar to those of class IA antiarrhythmic drugs and that these effects appear to be concentration dependent.

Erythromycin should be avoided if possible in patients with a history of long QT syndrome. Erythromycin should be used with caution and with frequent monitoring of the QT interval when used in combination with class IA antiarrhythmic drugs or in patients with a history of a long QT syndrome. Smaller doses should be considered in patients with impaired hepatic metabolism. Given the widespread use of erythromycin, the rate of the drug-associated arrhythmia is still remarkably low.

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REFERENCES

1. Priori SG, Schwartz PJ: Electrophysiologic mechanisms involved in the development of Torsades de Pointes. *Cardiovas Drugs & Thera* 1991;5:203-212.
2. Brugada P: Torsades de Pointes. *PACE* 1988;11:2246-2249.
3. Surawicz B: Electrophysiologic substrate of Torsades de Pointes: dispersion of repolarization or early afterdepolarizations? *J Am Coll Cardiol* 1989;14:172-186.
4. Jackman WM, Friday KJ, Anderson JL, et al: The long QT syndromes: A critical review, new clinical observation and a unifying hypothesis. *Prog Cardiovasc Dis* 1988;31:115-172.
5. Dessertenne F: La tachycardie ventriculaire a deux foyers opposes variables. *Arch Mal Coeur* 1966;59:263-272.
6. Roden DM, Thompson KA, Hoffman BF, et al: Clinical features and basic mechanisms of quinidine-induced arrhythmias. *J Am Coll Cardiol* 1986;8:73A.
7. Jackman WM, Clark M, Friday KJ, et al: Ventricular tachyarrhythmia in the long QT syndromes. *Med Clin North Am* 1984;68:1079-1109.
8. Herings RM, et al: Torsades de Pointes and the use of terfenadine and astemizone in the Netherlands. *Pharm World Sci* 1993;15:212-218.
9. Nattel S, et al: Erythromycin-induced long QT syndrome: Concordance with quinidine and underlying cellular electrophysiologic mechanism. *Am J of Med* 1990;89:235-238.
10. Ponnsonnaille J, Citron B, Richard A, et al: An electrophysiologic study of the arrhythmogenic effects of erythromycin. *Arch Mal Coeur* 1988;81:1001-1008.
11. Wilt JL, et al: Torsade de Pointes associated with the use of intravenous haloperidol. *Ann of Int Med* 1993;119:391-394.
12. Makker RR, et al: Female gender as a risk factor for Torsades de Pointes associated with cardiovascular drugs. *JAMA* 1993;270:2590-2597.
13. Stern S, et al: Torsades de Pointes: Definitions, causative factors, and therapy: Experience with sixteen patients. *Ann NY Acad Sci* 1984;427-434.

Don't Forget The Sunscreen

Dennis D. Hedge, Pharm.D., Sioux Falls, SD

The effects that sun exposure has on the skin can vary greatly. Acute exposure has been shown to cause erythema, photosensitivity, and immunologic changes. Chronic sun exposure has been implicated in the development of photoaging and photocarcinogenesis.¹ With summer approaching and our society's never ending pursuit of fun in the sun, now is the time to remind patients that regular use of appropriate sunscreen products can minimize these effects.

Sunscreens are topical agents that absorb, reflect, and scatter ultraviolet radiation. Ultraviolet B (290-320 nm) radiation is known to cause sunburn and skin cancer, and ultraviolet A (320-400 nm) radiation has been linked to photoaging and increasing the cancer-producing effects of ultraviolet B rays.² Topical sunscreen products which have been proven effective in reducing ultraviolet radiation exposure are divided into physical sunscreens and chemical sunscreens.

Physical sunscreens are opaque substances capable of reflecting and scattering ultraviolet and visible radiation. Examples of physical sunscreen substances include titanium dioxide, magnesium oxide, zinc oxide, and iron oxide.

Physical sunscreens are often messy, occlusive, and cosmetically unacceptable. These agents can also stain clothing, aggravate acne, and tend to melt off with heat from the sun. Physical sunscreens do, however, block a wide spectrum of radiation and are recommended for patients who have unusual sensitivity to ultraviolet and visible radiation.

Chemical sunscreens are nonopaque and maintain a thin invisible film when applied to the skin. These agents reduce ultraviolet radiation penetration to epidermal cells by absorbing ultraviolet energy and converting it into harmless long-wave energy which is emitted mostly as mild heat.

Often, commercial chemical sunscreen preparations contain ultraviolet A and ultraviolet B absorbing chemicals. Common ultraviolet B absorbing agents include para-aminobenzoic acid (PABA) esters such as padimate A and padimate O, salicylates, and cinnamates. Common ultraviolet A absorbing agents include the anthranilates, the benzophenones, and the dibenzoyl methanes.

Sunscreen products can be evaluated in three different areas: the sun protection factor (SPF), the

phototoxic protection factor (PPF), and substantivity. The sun protection factor is defined as the ratio of ultraviolet B radiation required to produce a minimal erythematous reaction in sunscreen-protected skin compared with unprotected skin. The phototoxic protection factor is defined as the minimum amount of ultraviolet A radiation needed to produce a phototoxic response in sunscreen-protected photosensitized skin compared with unprotected photosensitized skin. Finally, the substantivity of a product is defined as the sunscreen's resistance to washing off or being removed by perspiration.

It must be stressed that measurements such as the sun protection factor are merely laboratory measurements. Factors such as skin type, method of application, time of day, and reflective surfaces must also be considered when estimating the true effectiveness of a sunscreen.

Sunscreen products are now available with sun protection factor ratings up to 50. Sunscreens with an SPF over 15 appear to have no advantage over a sunscreen product with SPF 15 for the average person when applied appropriately. In order to provide optimal protection from sun exposure, a sunscreen with an SPF of 15 is appropriate and will allow for the gradual development of a safer tan.

Several recommendations can be made to patients to facilitate the sun protection activity of sunscreens. Among these recommendations are the following:

1. Apply an adequate amount of sunscreen 30-60 minutes prior to exposure and reapply periodically. Sunscreens need to be applied in a quantity which is consistent with test specifications ($2\text{mg}/\text{cm}^2$), more than what people typically apply. It is also important for the person to periodically reapply the sunscreen to account for sunscreen that has been rinsed off by water or perspiration as well as maintain the sunscreen's ability to absorb ultraviolet radiation.
2. Use a waterproof sunscreen when swimming and when perspiration is heavy.
3. Try to avoid prolonged sun exposure when ultraviolet B radiation is strongest, between 10:00 am and 2:00 pm.
4. Use sunscreens with a higher sun protection factor when in an environment with reflective surfaces

such as snow and sand. Snow will reflect nearly 100% of the light and radiation that strikes it.

5. Use an opaque sunscreen on the bridge of the nose, cheeks, helix of the ears, neck and shoulders when lengthy exposure to the sun is expected or when patients have an unusual sensitivity to ultraviolet or visible radiation.
6. Do not use sunscreens in children under the age of 6 months. A sunscreen with SPF 15 is appropriate for children when playing outdoors.
7. Sun exposure should be limited when taking medications which can cause photosensitivity reactions. Among these medications are tetracyclines, thiazides, sulfonamides, phenothiazines, hypoglycemics, and the psoralens. Broad spectrum sunscreens can also be helpful in limiting UV radiation exposure reducing the likelihood of a photosensitivity reaction. PABA is structurally related to several medications which have been reported to cause photosensitivity reactions (sulfonamides, sulfonylureas, furosemide, thiazide diuretics, and carbonic anhydrase inhibitors). If an individual has had a photosensitivity reaction with one of these agents, sunscreens with PABA or PABA derivatives should be avoided.

By assisting patients with the selection of an appropriate sunscreen and reminding patients of a few key principles which enhance the effectiveness of sunscreens, ultraviolet radiation exposure can be decreased. These reductions can limit the acute and long-term effects of sun exposure, resulting in not only more enjoyable outdoor activities, but healthier outdoor activities as well.

REFERENCES

1. Pathak MA: Sunscreens and their use in the preventive treatment of sunlight-induced skin damage. *J Dermatol Surg Oncol* 1987;13:739-749.
2. Pathak MA: Topical and systemic approaches for the prevention of acute and chronic sun-induced skin reactions. *Dermatol Clin* 1986;4:321-334.
3. DeSimone EM: Sunscreen and suntan products. In: *Handbook of Nonprescription Drugs*, 9th ed. American Pharmaceutical Association 1990:909-923.
4. Green HA, Drake L: Aging, sun damage, and sunscreens. *Clin Plas Surg* 1993;20:1-7.
5. Luftman DB, Lowe NJ, Moy RL: Sunscreens update and review. *J Dermatol Surg Oncol* 1991;17:744-746.
6. Sterling GB: Sunscreens: a review. *Cutis* 1992;50:221-224.



Edited by Brian Kaatz, Pharm.D.



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Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in *Rauwolfia Serpentina* (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon[®] is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

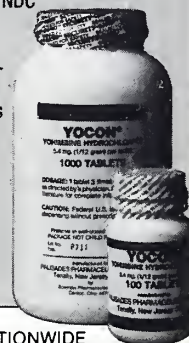
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon[®] 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., *New England Journal of Medicine*: 1221, November 12, 1981.
2. Goodman, Gilman — *The Pharmacological basis of Therapeutics* 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. *Weekly Urological Clinical letter*, 27:2, July 4, 1983.
4. A. Morales et al., *The Journal of Urology* 128: 45-47, 1982.

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Extenuating Circumstances

The Doctor-Patient Relationship: A View From Below

H. Phil Gross, MD

*Just a Doctor
for Suzie*

*Nothing is worse than a doctor
Who is just a doctor
She said*

*Remembering the cold steel technician
Who contemplated her exposed body
Dispassionately and correctly
And applied a medical touch
Which failed to palpate her fear*

*So questions went unasked
And unanswered.*

*From: Something At Last
by: Jerome Freeman, MD¹*

In survey after survey, the data show most patients are happy with their own doctors, but feel that the "system" (or doctors in general) is bad. There are reasons for this dichotomy of thought. In my own experience as a patient, the doctor-patient relationship has been a pleasurable experience, but the "system" leaves ample room for improvement. The "system" and doctors in general are being targeted by the media as the villains. Whereas Wall Street and greed were decried in the 80's, the medical profession is now prey to such works as "The Fugitive" and "Lorenzo's Oil".² As an orthopaedic surgeon with 27 years of clinical experience and viewing this phenomenon from above, the past five years have provided the opportunity for a view from below as a patient with multiple sclerosis.

There are a number of paradigms that hinder the doctor-patient relationship that are on the periphery of the actual encounter. These could be loosely defined as architecture, administration, language, dress, and the business and instructions that occur after the consultation. My views will be limited to the doctor-patient encounter in an out-patient setting.

Before the initial contact between the patient and doctor can take place, an appointment must be arranged by the patient. The patient's first impression of the doctor is gained from the initial phone call. The telephonics of the person in the doctor's office is all important at this stage. Unfortunately, my own experience has not always been positive. Some secretaries show little interest in patients' symptoms or

complaints, and concentrate more on the solvency of patients and their insurance coverage. When the symptoms are considered, a diagnosis is preferred rather than the symptoms. Self diagnosis by the patient can not only be misleading but dangerous as well. Voice mail can be equally frustrating while being asked to depress 1, 2, 3, or the asterisk depending on symptoms or circumstances.

Once the appointment is obtained, it is usually confirmed with a letter that not only confirms the time and place, but emphasizes the method of payment and the general charges for the initial visit. This clearly brands the patient as a consumer of goods at a fixed price. It discourages the thought of the patient seeking personal, professional help.

When patients arrive at the appointed time, the first vision they confront is the architecture of the building. As a patient, I am still confused as to whether to stand in awe of this architectural endeavor, to be impressed with its clean lines and efficient thoroughfares, or whether the building should give a hint of what resides inside. Others have had the same impression, as mentioned in this paragraph from *U.S. News and World Report*:

Most hospitals are dismally inhospitable. A weakened patient and traumatized family are greeted by harsh lights and cold stainless steel, labyrinths of white corridors, thumping equipment and arid, mysterious smells. The sick rarely have access to information, privacy, or a place for quiet talk or grieving. The resulting sense of anxiety and helplessness is the worst imaginable to promote healing.³

These structures appear to be designed more for efficiency in managing and handling people than in caring for them. It is reminiscent of cattle being directed down a chute with all the safeguards against one going astray rather than the loving, envelopment of the patient as in a family or community setting.

In comparison, other professions such as the clergy and the church use their architecture to teach the history and the mission of that calling. Stained glass windows and icons all point toward a certain goal. The medical temples of healing are sterile, technological edifices. If history is attempted, it's done in the form of a museum with grotesque embryos and tumors displayed in formaldehyde filled jars. Very little is said of the caring, healing, and curing that transpires within.

The design of medical buildings is currently being taken seriously in certain specialty areas. Accommodations are being made, especially for the handicapped, such as the visually and physically impaired. Several architects have taken to wheel chairs, as they plan nursing homes and crippled children's facilities, to gain a view from that lowered perspective. In New York, an architect⁴ is working on a facility for the visually impaired using an array of visual and tactile directives to help the patient get around while still complying with the Americans with Disabilities Act.

The color of the exterior building and the interior walls can also have a profound effect on the patient's feelings. A teal-green color popular 20 years ago is gradually being replaced by warmer, more hospitable colors. Fortunately, the extreme stark white is also being replaced.

The pictures and decorations on the walls are also important. While a sailfish or mounted animal head on the wall may depict the sporting nature of the physician, they are not the image every patient associates with a healing environment. Rather than the doctor and spouse choosing the decor, it would be better to hire a professional art consultant for this purpose. The decorator will know the culture, the locale, the building specifications, and will be able to coordinate the art, the color of the walls, the subject matter, as well as the light patterns, and still select art, fabrics, and materials that are consistent with the local code.⁵

At a recent medical appointment, after entering a mausoleum appearing building, I followed the partially hidden directory attached to a pea-green interior wall which directed me to the eighth floor to see my doctor. On the appointed floor, another partially obscured directory pointed me toward a small prominence down the hall for registration. At this station, a lady was seated behind a sliding glass door at shoulder height. When she noticed my face in the window, she opened the sliding glass door with the question, "Name?", which I answered promptly. The next question was, "Card?", which I assumed to be my Blue-Cross/Blue-Shield card. The assumption must have been correct as she grasped the card, turned around without getting out of her chair, and made a copy of it. The card was then returned with the instructions, "Have a seat, the doctor will call you when he's ready."

The seat to be taken was befitting any airline or railway station. Instead of the chairs being in a small cluster where one could be alone or in community with others, the seats were in long rows leaving the patient staring into the back of the neck of other patients, or the stone gray of the building superstructure, or the pea-green walls.

The time spent in waiting, or the vintage of the reading material to be perused while waiting, has been

dealt with in enough other instances to warrant its exclusion in this paper. The wait is always too long, and the literature out of date.

Once in the confines of the doctor's office, things were a bit more congenial. I could appreciate why patients think "their" doctor is great, but the system is in need of repair. Even though I, as a physician, could understand the rhetoric, the implications of the interview became clear as it would impact the average patient.

This was a typical case where the use of the language, as described by Michel Foucault, a French philosopher writing in *The Birth of the Clinic*,⁶ is used to invoke power by using language that is a bit beyond the understanding of the average patient. Historically, the words used to describe causes and vectors of disease 100 years ago were no better known by the doctor than by the patient. Then the words "bad humors" and "miasmas" were used to describe the origins of disease. The patient had the same vague knowledge of these terms as did the physician. But in the late 1800's, when the physician started opening corpses and found cancer, cirrhosis, bowel obstruction, and pneumonia, the vocabulary of the physician broadened enormously. The patient, not having the education of the doctor to learn all these terms, was at a disadvantage. The casual use of such terms as adenocarcinoma, pneumococcal pneumonia, or sickle cell anemia are the tools being used in a subtle power play.

These words, although used in a disarming manner, nevertheless establish the superiority of the doctor over the patient. Then, just in case the patient was maintaining the pace, the doctor could always reestablish superiority by adding a few lettered acronyms like the MRI, or the CAT scan, or PAT. Most often doctors do not deliberately use these terms to intimidate, but by employing this jargon, the assumption of power is the attained effect.

If the language is not enough, the doctor can sustain distance from the patient by the attire worn. The starched white coat will always impress, especially if you are the patient in a flimsy examining gown with your backside exposed. Then, for that extra bit of drama, enter the surgeon in a scrub suit, breathless, who has just left the operating room to come and see you, the patient, when the surgeon should be elsewhere saving lives rather than listening to you complaining about a sore shoulder that has been hurting for six months.

There is another way the doctor can maintain distance from the patient and that is by talking around, or over the patient. Having spent some time in a wheelchair, I am aware of physicians or their assistants speaking over me to my wife who is in attendance. They will speak to her rather than me just as if some physical impairment implied a mental deficiency. This is also

true of counselling the young and the elderly. There is a tendency to converse with the adult accompanying the patient who is more the doctor's age, rather than speaking directly to the patient. This behavior on the part of the physician can be detrimental to the doctor-patient relationship.

Another delicate phase of the doctor-patient relationship is in the discussion of alternative forms of medicine. I used to cast this off by simply saying it wasn't "scientific" and feeling that took care of the issue. But Dr David Eisenberg⁷ reports recently that 30% of the nation are now using alternative medicine, be it homeopathy, acupuncture, chiropractic, or ayurveda. This is a figure that cannot be ignored simply because it is not "scientific". There is some reason the public is looking for other methods of healing and that must be addressed. We have long been content to learn more and more about less and less in our own specialties, but the time has come to learn more and more about more and more. We must explore which modalities of treatment will best suit our patient and help them navigate the course to their best care.

Once seen by the doctor, the patient leaves in a bewildered state, confident that all will be well. On the way home, the patient may stop at a pharmacy to pick up a prescription. This will be another shock wave as to the cost of medicine. The doctor gave no indication of the cost of the medicine. However, all will be well once the patient is home and on the medication. So the cost is bravely endured.

Another aftershock is encountered when the instructions on the bottle, instead of telling how to take the medicine, are all labeled the same. All three bottles say "As instructed", or "As directed". Did the doctor say to take three green pills twice a day, or two green pills three times a day. And no mention was ever made of the yellow pills!

Then it seems within hours the bill arrives. It certainly takes less time than it took to get the appointment. With the bill comes the admonition that insurance will only pay part of the bill, and the remainder must be paid in so many days, again in less time than it took to get the appointment in the first place.

The physician, when queried about the bill, is usually ill prepared to handle the questions appropriately and will defer them to the business manager. This will result in further distancing of the physician from the patient. As the new health plan looms over us, it is imperative that the physician know the answers to what is covered and what is not covered. Many of these questions could be answered in advance which would be a preferable way of managing this problem. There will always be ongoing interrogation, and the physician should anticipate these inquiries and answer them in a compassionate and helpful manner.

In order to fully appreciate the above scenario, it

would be helpful for the physician, instead of coming to the office in the morning and parking in a designated area, to drive or walk to the facility in which the physician practices and follow the path of the patient. Note how difficult it is to park, and how many steps it is from the car to the front entrance. On the way, note the landscaping as well as cut-outs or ramps for the disabled. As you enter the door, look for a directory, or a staff person in immediate sight to help guide the patient. What is the appearance of the building? Is it hospitable and welcoming, or is it cold and institutional? Follow the patient's trail through registration and waiting until finally being seen by you, the doctor. How can patients occupy themselves until they are finally seen. Are the reading materials up-to-date, are the wall decorations inviting, and are the house plants in the lobby alive and well? What is the seating arrangement?

Once the patient is seen, what is the demeanor of the doctor-patient relationship? This, unlike the outer environment, is something the doctor can directly control. That control should not only nurture the patient during the actual visit, but extend from then until the time the patient reaches the security of home and receives the final bill. Only then can the doctor-patient relationship reach its true perfection.

H. Phil Gross, MD, Ross, CA, retired orthopaedic surgeon from Sioux Falls, SD.

REFERENCES

1. Freeman, J: Something at last. Penstemon Pub of SD 1993. Pine Hill Press, Inc. Freeman, SD.
2. Kolata, G: Forge! the buller, the medical industry did it. *New York Times*, Oct 17, 1993.
3. Horn M: Hospitals fit for healing. *U.S. News & World Report*, July 22, 1991, pp 48-50.
4. Slatin, P: Darkness made visible. *Intntl Design* 1993;40(5):81-82.
5. Clewly S: Art for medical facilities. Organizing, Designing, Bldg Ambulatory Hlth Care Facil, Marshal Erdman & Assoc, Inc. 1991, pp 238-240.
6. Foucault M: Open up a few corpses. *Birth of the Clinic* 1973, pp 124.
7. Eisenberg DM: Unconventional medicine in the United States. *New Eng J Med*, Jan 28, 1993, pp 246-252.

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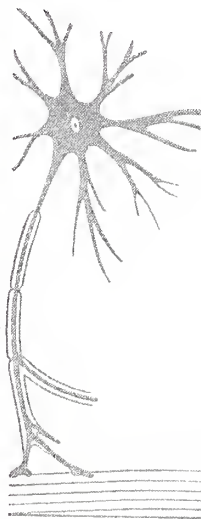
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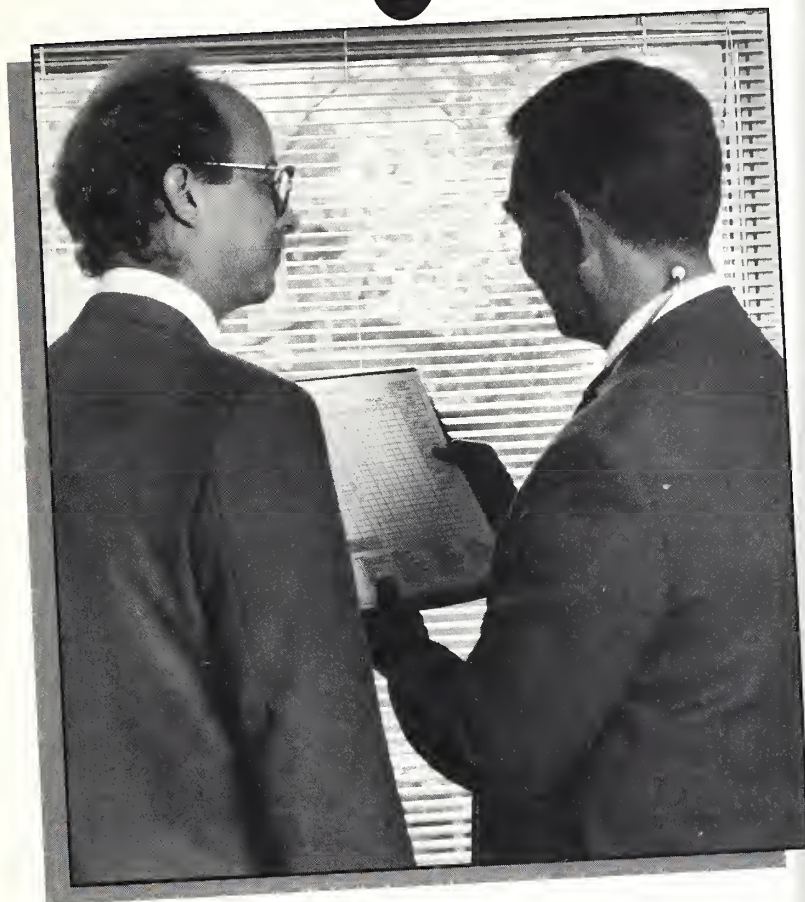
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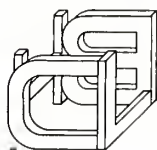
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ORIGINAL MANUSCRIPTS: Material appearing in all publications of the Journal of Medicine should be typewritten, double-spaced and the original copy. An abstract of 100-200 words and a list of references should accompany each article. Footnotes should conform with the requirements for manuscripts, and each manuscript should include the name of the author(s), the location of the author and title of the article. The pages should be numbered consecutively. The used manuscript is not returned but every effort will be made to return manuscripts not accepted or published by the Journal. Articles are accepted for publication on condition they are contributed solely to this Journal.

REFERENCES: Should be listed in the order in which they appear in the article and should not be more than 20. They should be complete and accurate and include the authors' names and initials, title of article, abbreviated name of Journal, volume number, pages and year of publication. References to books should include authors, title, location and name of publisher, year of publication, edition and page numbers.

ILLUSTRATIONS: Satisfactory photographs or drawings should be supplied by the author. Each illustration, table, etc., should bear the author's name on the back. Photographs should be clear and distinct 5"x7" glossy prints. Drawings should be made in black India ink on white paper. Used illustrations are returned after publication if requested.

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CME Conferences

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CME CONFERENCES

JUNE 1994

- June 1 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- June 2 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- June 2 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To Be Announced, Dr. James Ruggles, Info: 665-9002.
- June 2 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- June 2 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- June 3 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- June 3 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- June 3 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- June 3 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: to be announced, Topic: to be announced, Info: Dr. Donald Humphreys - 339-6790 (Pam Langhoff).
- June 7 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- June 8 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- June 8 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- June 8 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- June 9 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- June 9 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- June 9 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- June 9 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- June 9 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; To be announced, To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- June 9 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- June 10 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- June 13 **Tumor Board** - Fort Meade VA, Info: Vickie Netterberg, 247-2511, Ext 284.
- June 14-16 **ACLS Provider** - 19.75 hours Cat 1, McKennan Hospital, Sioux Falls; Info: Kathy Miles, 339-7739.
- June 14 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- June 15 **Clinical Path Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- June 15 **Geriatric Forum** - 7:00 am, RDT Network Studio, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- June 15 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, Info: David Rossing, MD, 331-3490.
- June 16 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- June 16 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- June 16 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- June 17 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- June 17 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

June 21 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.

June 22 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Willa A. Hsueh, MD, Topic: Stalling the Complications of Diabetes: Focus on Kidney Disease, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

June 22 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.

June 23 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).

June 23 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.

June 23 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

June 23 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

June 24 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

June 24 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.

June 24 **Tumor Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

June 27 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145

June 29 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Jacques R. Leclerc, MD, Topic: An Overview of Newer Heparins, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

June 30 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

June 30 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

JULY 1994

July 1 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.

July 1 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

July 6 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: William C. Duckworth, MD, Topic: Combination Therapy & the Treatment of Type II Diabetes, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

July 7 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

July 7 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

July 7 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

July 7 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.

July 8 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

July 11 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145

July 12 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.

July 12 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.

July 13 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).

July 13 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Nicholas Vogelzang MD, Topic: The Treatment of Metastatic Renal Carcinoma, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).

July 13 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.

July 13 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.

July 14 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

July 14 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.

July 14 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

July 14 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

July 15 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

July 15 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.

MISCELLANEOUS MEETINGS

JUNE

- June 3-5 **Treatment for the Young Adult with Hip Disease**, Red Lion Hotel, Omaha, NE. Fee: \$500. AMA Category 1 credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- June 6 **Medical Therapy of the Fetus - OB Outreach Program**, Offutt Air Base, Omaha, NE. AMA Category 1 credit. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton U CME Div, 2500 California St, Omaha, NE 68178. Phone: (800) 548-2633.
- June 8 **Drug Therapy of Alzheimer's Disease**, Ritz-Carlton Hotel, St Louis, MO. AMA Category 1 credit avail. Contact: Off of CME, Washington U School of Medicine, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- June 16-18 **2nd Annual Diagnostic Dilemmas in Women's Health Care**, Omaha Marriott, Omaha, NE, Fee: \$200. AMA Category 1 credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68189-5651. Phone: (800) 642-1095.
- June 23-25 **Abusable Medications and Clinical Challenges: Prescribing Psychotropic Drugs for Difficult Patients in Primary Care**, Washington U Med Ctr, St Louis, MO. AMA Category 1 credit Avail. Contact: Off of CME, Washington U School of Medicine, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.

JULY

- July 14-16 **1994 National Conference on Family Violence: Research and Practice**, Holiday Inn Centre, Omaha, NE. Fee: \$150. AMA Category 1 credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68189-5651. Phone: (800) 642-1095.
- July 19-22 **Pan Pacific Lymphoma Conference**, Ritz Carlton - Mauna Lani, Kohala Coast, Hawaii. Fee: \$395. AMA Category 1 credit avail. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68189-5651. Phone: (800) 642-1095.
- July 28-30 **Clinical Allergy for the Practicing Physician**, Ritz-Carlton Hotel, St. Louis, MO. AMA Category 1 credit avail. Contact: Off of CME, Washington U School of Medicine, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.

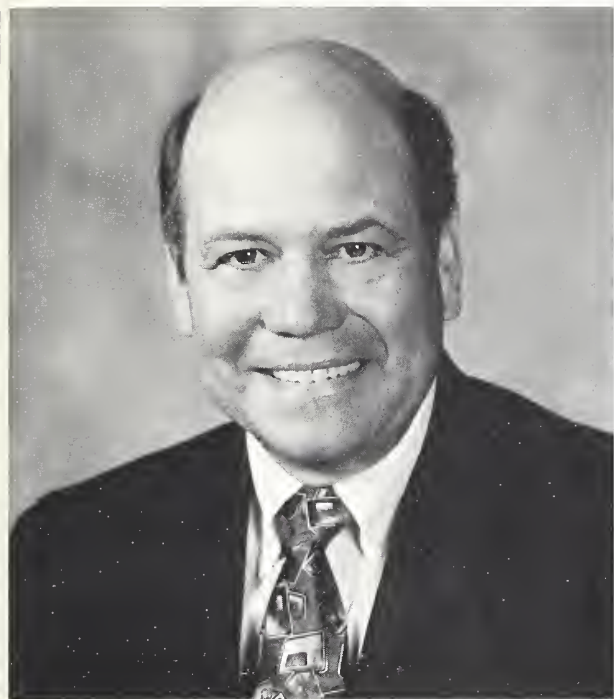


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**James R. Reynolds, MD, President
South Dakota State Medical Association**

It is with great pleasure and apprehension that I assume the role of President of the South Dakota State Medical Association. I follow a long line of dedicated and talented members of the Association who have served the Association in this capacity. This past year, Dr Tom Krafka has lead our Association and I would like to thank him on behalf of the membership as well as personally for a job well done.

This year, like last, will see significant debate and change in the health care delivery system. These changes are occurring and will continue to occur regardless of whether national health legislation is passed. Abraham Lincoln once said "Let not the worship of the past or the confusion of the present prevent us from preparing wisely for the future". This plaque has hung in my office for years and at no time does it seem to be more prophetic than now with the current changes underway in the reorganization of medical care. For those of us in practice since the mid 1970s, many of us will look back at this time as the golden age of medicine in which we enjoyed the freedom to practice without restraint from managed care, but rather solely in the best interest of our patients. We enjoyed an explosion in medical technology that allowed us to extend indica-

tions for and the success of many difficult medical procedures. We did this without undo concern for the costs incurred and instead focused entirely upon the potential for a favorable outcome.

The confusion of the present is obvious. A day does not go by without an article from a colleague crossing my desk. This occurred with some pattern of regularity in the past, but now has become an almost daily occurrence. So much is written about health care and health reform that one has to carefully sort out those having significance. Obviously, the confusion of the present cannot be better exemplified than the current discussion on health care reform. As we enter the summer months, the congressional committees will be reaching crucial decisions that will make up the final health care reform proposal. Clearly this will have a dramatic affect on our lives in the future.

Each day I hear the concerns that we as physicians have no voice. I feel that this is far from the truth and in fact feel that we all have the ability to be heard and should be heard loudly and with conviction. Lincoln's statement, preparing wisely for the future, may be the most difficult. Clearly, until current health care debate is completed and a blueprint for the changes defined, preparing wisely will be difficult.

Changes will occur and many of them will be formalized this year. As we move forward and react to these changes, we must keep in mind our primary responsibility, our patients and the people of South Dakota.

A Change Effects All the Organisms in the Ecosystem

Environmentalists have championed the above concept for sometime to make us realize that human activities which change nature—dams, use of forests, etc.—will cause often irreversible changes in animal and plant life which depends on the natural resources. This concept will also apply to health care reform.

Thus far, almost the entire emphasis has been placed on limiting payments or resources to providers. The fact that you cannot provide something you do not have has not been fully appreciated. Lets talk about some of the other parts of the ecosystem.

Both the patient and the trial lawyers are part of the health care ecosystem. I have discussed before in one editorial how the use of practice parameters or guidelines may well fail to reduce the rising medical liability awards because there are multiple guidelines which may be chosen to illustrate a point or lawyers may create their own guidelines. They may also create the impression that a guideline is an unalterable standard of practice and not a signpost to be regarded only in light of clinical judgement.

I have also discussed in a previous editorial how a cap on noneconomic damages and lawyers contingency fees is necessary to reduce the cost of health care. The lack of provisions to address medical liability reform in the Clinton plan and McDermott single payer plan is glaring and shows a total lack of appreciation of the impact of the national litigious climate on health care costs.

These costs can be reduced without infringing on anyone's individual right to sue for injury or collect economic damages. The limit has to be on noneconomic damages, which are often highly inflated in jury awards. A limit on contingency fees would reduce the number of suits and amount of the awards.

Finally, I find it difficult to see why punitive damages are allowed to be assessed so liberally by our court system. It is hard to believe attempting to punish health care providers does anything but raise the cost of providing those services to the public. Since many times complications and tragic outcomes of diagnostic and therapeutic procedures are not preventable in all cases, assessing punitive damages does not increase the quality of practice but does increase the apprehension while delivering care.

The provision to allow juries to be aware of payments from collateral sources and stipulation of periodic pay-

ments should also be allowed as reasonable rates for compensation.

The new health care proposals mentioned above not only do not address tort reform, a whole new area of litigation is appearing in the form, "Everybody gets everything or else". There is much discussion of a standardized benefit package for all and for guidelines limiting futile care. Both are considered by many to be necessary to limit escalating costs. Both the above will be impossible if suits can be brought if all services are not provided to everyone. Probably the most notable recent example is the 89 million dollar settlement to a patient who did not receive an autologous bone marrow transplant to facilitate high dose therapy for metastatic breast carcinoma. There are many low benefit high cost procedures each of which has to be evaluated before we can all be expected to pay for these procedures. No matter what caps on health care spending are intended, none will take effect if anyone can sue for services not provided.

Fortunately, medicine is not alone in seeing some of these problems. There is a new health care liability alliance formed to bring about tort reform. This alliance includes Physicians Insurer's Association of America, the Pharmaceutical Manufacturer's Association, the National Association of Manufacturers and the National Council of Community Hospitals. These organizations are powerful allies in tort reform. This year our proposed bill to cap awards on noneconomic damages failed. We have to try again. That will be a beginning.

John F. Barlow, MD
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Molecular Medicine: A Primer For Clinicians

Part V: Cancer

Department of Biochemistry and Molecular Biology. Edited by Ronald Lindahl, Ph.D

ABSTRACT

Cancer is among the most common human diseases. However, with few exceptions, the etiology of the human cancers is not apparent. The tools of modern molecular biology have begun to elucidate the steps involved as a normal cell becomes cancerous. The results indicate two families of genes, oncogenes and tumor suppressor genes, play key roles in tumor development. The ability to identify and manipulate these genes suggests possible molecular medicine-based diagnostic and prognostic tests as well as potential gene-based treatments or cures. The paper discusses recent advances in cancer molecular biology. The application of this information to patient care is also described. Finally, some of the ethical issues raised by the potential application of molecular medicine to cancer are discussed.

INTRODUCTION

For no other disease are the power and limitations of molecular biology more apparent than for cancer. This paper in our series on the applications of modern molecular biology to clinical medicine will discuss what has been learned about the molecular biology of human cancer. We will examine the prospects for better diagnoses and treatments based on this new knowledge. Finally, we will consider the issues that arise as this new information is taken to the bedside. Readers are referred to the earlier papers for details of terminology and the molecular biology methods described here.¹⁻⁴ Excellent reviews of cancer molecular biology have appeared recently.⁵⁻⁹

By any measure, morbidity, mortality, or lost productive hours, cancer is among the most common of human diseases, directly affecting 1 in 4 Americans in their lifetime. Work in animal model systems clearly indicates that chemicals, radiation and viruses can be carcinogens (cancer-causing agents). However, with few exceptions, the etiology of the common human cancers is not apparent. For most cancers, colorectal, breast, prostate, and urinary bladder, both genetic and environmental factors are important.

It is clear that individuals with a family history of a certain form of cancer are often at greater risk for developing that cancer than a non-related individual. This and similar observations indicate the presence of a strong genetic component for most human cancers.

However, not everyone in a particular family with a history of cancer may ultimately develop the disease. Epidemiological studies indicate that each of the common cancers has a strong component linked to some aspect of life-style or environment; most commonly, diet, occupation, geography, and/or socioeconomic status. And even though causal links between smoking and certain types of lung cancer and ultraviolet radiation and skin cancer are well-established, genetic factors play an important role in these cancers as well. Assessing the relative roles played by environment and genetics in the etiology of human cancers is now the subject of considerable research. The concept emerging from such work is that genetic background may operate as the major predisposing or protective factor for subsequent tumor formation following exposure to carcinogenic insults.

THE MOLECULAR BASIS OF CANCER

At the cellular level, cancer is considered a disease of cell growth control. Cancer cells have defects in the mechanisms of regulation of cell proliferation. All cells have a well-defined growth process called the cell cycle. For actively growing tissues, this cycle is one of cell division (mitosis) followed by a period (interphase) in which the cell performs its normal function and replicates DNA for the next cell division. As tissues reach their differentiated, functional state, cells leave the cell cycle and enter a prolonged interphase in which they carry out their normal functions but do not undergo

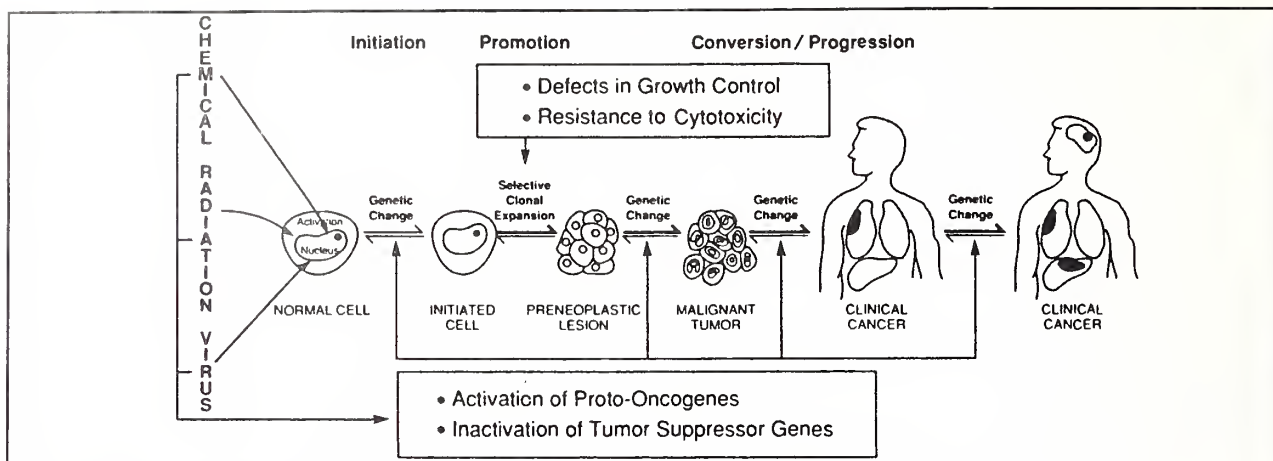


Figure 1

Multistage model of carcinogenesis. Taken from reference 6 with permission.

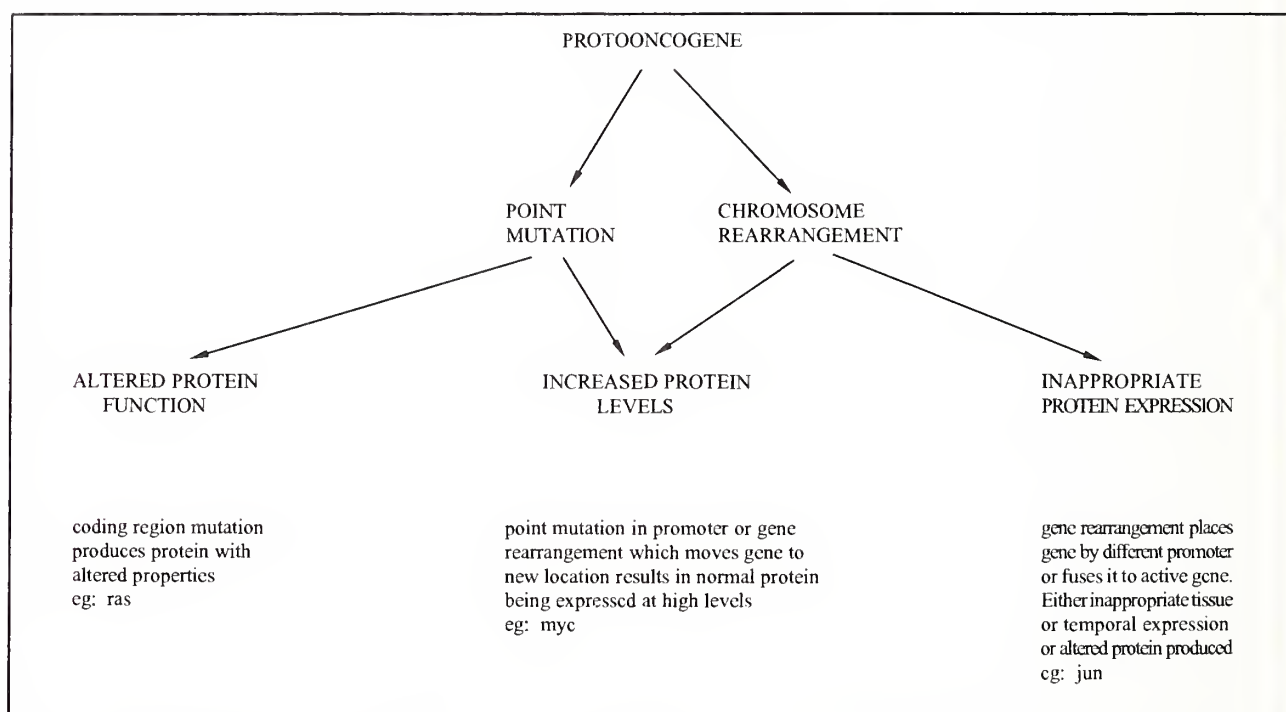


Figure 2

Mechanisms of protooncogene activation.

mitosis. Normal cells recognize and respond to inter- and intracellular signals to enter and leave the cell cycle as necessary, as in wound healing or an immune response. Some cells, such as the epithelial lining of the GI tract, skin, or blood cell precursors, are continually in the cell cycle.

Cancer cells have defects in one or more mechanisms of cell growth control so that they either do not properly process signals to leave the cell cycle or reenter the cell cycle in the absence of any signal to do so. This results in an unregulated increase in cell number and a tumor eventually results. While tumor formation per se is pathophysiological, it is the ability of cells of a poten-

tially cancerous tumor to leave the primary tumor (metastasize) and colonize distant sites that defines cancer and makes it such a difficult disease to treat effectively.

It is commonly accepted that the development of a metastatic cancer is a multistep process. (Figure 1) The process is generally divided into three stages: initiation, promotion and conversion-progression. Initiation is the initial insult to a cell that starts it on the path to cancer. Initiation is believed to require direct damage to DNA in the form of mutation. The initiation event alters one or more genes and these changes confer a selective growth advantage to this cell over adjacent,

uninitiated cells. It is well-established that most carcinogenic chemicals and radiation act as initiators by causing mutations. Many cancer-causing viruses may also act as initiators by causing mutations, but as will be seen below, viruses may cause initiation by activating or bringing an "oncogene" into a normal cell during infection. Cells are likely being initiated continually but are normally removed by the body's immune system, since they are recognized as non-self cells. Initiated cells must then undergo promotion to achieve their selective growth advantage and form a preneoplastic lesion that can further progress to a malignancy. Promotion is not a well-understood process in humans, and may not require additional genetic damage to initiated cells. Many chemicals that are not carcinogenic per se can act as promoting agents. The tumors that develop from preneoplastic lesions must undergo further genetic changes in order to progress to the ultimate metastasizing tumor. This progression likely requires several genetic changes that result in a progressively more malignant phenotype. The formation of a cancer by this multistage process generally requires the majority of the lifetime of the organism. While in many types of childhood cancers the process appears much compressed, the multistage model explains why cancer is usually considered a disease of the elderly.

CANCER GENES

What is the nature of the genetic damage occurring during development of a cancer? Damage to any number of different genes could either initiate the process of tumor development or provide a selective advantage to an initiated cell. The tools of molecular biology have directed most interest recently to two groups of genes that are believed to play roles in control of cell proliferation. These are the protooncogenes and tumor suppressor genes. While these names are descriptive of the function of many of these genes with respect to their behavior during tumorigenesis, the names say nothing about the normal function of such genes. In fact, these genes encode products involved in a very diverse set of normal cellular functions, some of which are only indirectly related to cell proliferation per se.

Oncogenes and Protooncogenes

Protooncogenes are normal cellular genes. When one or more of these genes is mutated or inappropriately activated, tumor cells are either initiated or aided

in their progression toward malignancy. Since the first examples of genes that could directly result in cells becoming cancerous were found in cancer-causing viruses and the term for viral-caused cancer is oncogenesis, these genes became known as oncogenes. Only subsequently was it demonstrated that viral oncogenes were in fact normal cellular genes that the virus had incorporated into its genetic material during the infection of another cell. Since these normal cellular counterparts do not confer a tumor phenotype on cells they are called protooncogenes. Carcinogens can activate a protooncogene in one of three ways. (Figure 2) Mutation in a single codon can alter the amino acid sequence of the product causing its function to change. A mutation can increase the level of transcription of the gene above normal resulting in increased levels of its protein product. A chromosome breakage event can translocate the protooncogene to another region of the genome where it is activated inappropriately. Ex-

Table I
Functions of Protooncogene Products

Growth Factors

sis	PDGF B-chain growth factor
int-2	FGF-related growth factor
FGF-5	FGF-related growth factor

Receptors and/or Protein Kinases

src	Membrane-associated nonreceptor protein-tyrosine kinase
yes	Membrane-associated nonreceptor protein-tyrosine kinase
fgr	Membrane-associated nonreceptor protein-tyrosine kinase
abl/bcr/-abl	Nonreceptor protein-tyrosine kinase
erbB	Truncated EGF receptor protein-tyrosine kinase
neu	Receptor-like protein-tyrosine kinase
met	Soluble truncated receptor-like protein-tyrosine kinase
kit	Truncated stem cell receptor protein-tyrosine kinase
ret	Truncated receptor-like protein-tyrosine kinase
raf/mil	Cytoplasmic protein-serine kinase
mos	Cytoplasmic protein-serine kinase
mas	Angiotensin receptor

Membrane-Associated G Proteins

ras	Membrane-associated GTP binding/GTPases
gsp	Mutant activated form of G _s α
gip	Mutant activated form of G _i α

Nuclear Transcription Factors

myc	Sequence-specific DNA-binding protein
myb	Sequence-specific DNA-binding protein
ets	Sequence-specific DNA-binding protein
ski	Transcription factor?
fos	Combines with c-jun product to form AP-1 transcription factor
jun	Sequence-specific DNA-binding protein; part of AP-1
erbA	Dominant negative mutant thyroxine (T ₃) receptor
rel	Dominant negative mutant NF- κ B-related protein

amples of all three types of protooncogene activation are known. Activated protooncogenes referred as oncogenes behave genetically as dominant mutations, since mutation of only one of the two alleles normally present is sufficient to produce the tumor phenotype.

Approximately 100 oncogenes have been identified. (Table I) The products of these genes encode 4 different types of cellular protein functions important in cell growth control. Oncogenes may encode growth factors. Oncogenes may encode cellular membrane receptors that transmit extracellular signals into the cell via their associated protein-activating activities. Third, oncogene products may be components of membrane/intracellular signalling pathways known collectively as G-proteins. Finally, oncogene products may act at the level of the nucleus as transcription factors.

The *ras* family of oncogenes are an example of the G-protein, signalling group of oncogenes. For the *ras* family, single base-pair substitution mutations in one codon of the gene results in the replacement of one amino acid for another in the *ras* protein. These mutations produce a *ras* protein which functions abnormally in the intracellular signalling process. In experimental systems, this single mutation in the *ras* protooncogene is sufficient to initiate skin carcinogenesis.¹⁰ However, it has also been clearly demonstrated that alterations in a single protooncogene are not sufficient to produce a tumor and that additional genetic events must also occur.

Tumor Suppressor Genes

Genes that suppress tumor development have been known for several years, but only recently have their roles in tumor development begun to be examined.⁹ The first evidence for tumor suppressor genes came from observations that hybrid cells made by fusing normal and tumor cells or 2 different types of tumor cells were not tumorigenic. These studies suggested the existence of genes responsible for the tumor phenotype that behave genetically as recessives. As recessive genes, mutations in them can often be complemented by the presence of wild-type alleles for the genes in the fused cells. In contrast to oncogenes which behave as gain-of-function, dominant mutations, mutations in tumor suppressor genes appear phenotypically as loss-of-function alterations.

The hereditary form of human retinoblastoma as contrasted to the sporadic form was the first human cancer to provide direct evidence for a tumor suppressor gene. In this form of retinoblastoma, the affected individual inherits one mutant allele at a gene designated *RB* (retinoblastoma susceptibility gene). A second mutation at this locus, but affecting the other allele, occurs in a single retinal cell early in life. This results in formation of a retinoblastoma in childhood. Since one mutant *RB* allele is inherited and the second

mutation occurs in a somatic cell, the disease appears to be inherited as a dominant trait even though the underlying genetics are recessive. Therefore, if the *RB* gene is acting as a loss-of-function, tumor suppressor, one should expect to find reduced expression of *RB* gene transcripts or protein product in *RB* tumor cells. This is indeed the case in all tumors studied. The mutations produce either deletions of *RB* DNA or RNA splicing alterations that result in deletion of an exon.⁹ Interestingly, the *RB* gene is expressed in many, if not all, cell types normally. the *RB* gene product is a nuclear-localized protein which is activated and inactivated at various stages of the cell cycle.

How do changes in protooncogenes and tumor suppressor genes result in tumor development? As noted, both protooncogene and tumor suppressor gene products function in many steps of the cell cycle. Mutations at any of these steps could result in altered cell behavior. *Ras* and *RB* gene mutations are examples. It is also easy to envision how a mutated growth factor receptor which falsely believes that a growth factor molecule has activated it can begin a signal transduction cascade eventually resulting in cell division at an inappropriate time. It is also easy to see that the more changes that occur in the various signal transduction pathways, the more likely that the cell will be prompted to divide when it properly should not.

CANCER MOLECULAR BIOLOGY AT THE BEDSIDE

At the molecular level cancer can be viewed as an inevitable result of the accumulation of mutations in protooncogenes and tumor suppressor genes. Early mutations in key genes can initiate or promote preneoplastic lesion formation. Other mutations in these initiated cells then allow progression and development of the ultimate malignant tumor. The key unanswered question for any common cancer is what are the specific genes that must be altered and in what order must the changes occur?

Knowledge of the molecular development of common cancers provides new opportunities in dealing with the cancer patient. Identification of specific mutations associated with certain tumor types provides new approaches for diagnosing the disease. If a particular pattern of mutations is associated with particular outcomes, such mutations provide a basis for prognosis. More effective treatments or cures become possible because specific targets for new treatment regimens are known. Moreover, if carcinogens cause certain mutations in certain tumors, prevention also becomes possible.

We will focus on two common cancers to illustrate how understanding the genetic basis of cancer is beginning to have practical consequences for cancer patients. Excluding lung cancer, breast and colon cancers are the two most common cancers in the U.S. It is

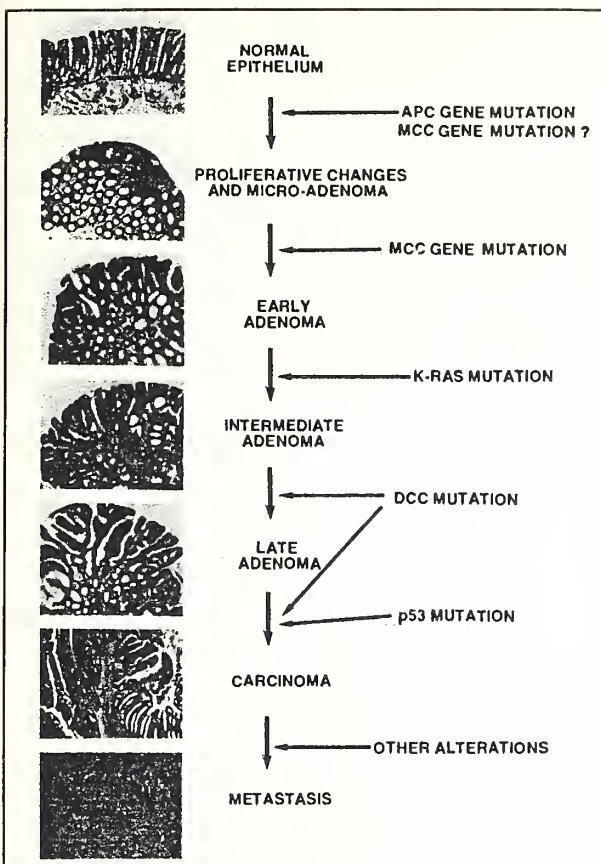


Figure 3

Genetic model of colon cancer. As in Figure 1, initiation and promotion convert a normal epithelial cell into a preneoplastic lesion, an adenoma. A certain small proportion of adenomas progress to a malignant lesion, a carcinoma, capable of metastasis. Taken from reference 13 with permission.

well-known that these cancers occur in both familial and sporadic forms. The sporadic form of each is most common and is characterized by its random appearance in families without a clear history of the disease. The familial forms are characterized by their frequent occurrence in multiple members of a family over several generations. Family members demonstrate an increased probability of developing disease due to an inherited genetic predisposition. Such a predisposition does not exist in the sporadic forms. This is identical to the two forms of retinoblastoma discussed earlier.

Intensive study of families in which the inherited forms of breast or colon cancers occur have led to increased understanding of the genetic basis that may underlie development of the familial and sporadic forms of these cancers.¹¹⁻¹⁷ These studies provide evidence for single genes that are responsible for the genetic susceptibility to these cancers. The breast cancer susceptibility gene, called *BRCA-1*, is estimated to confer genetic susceptibility to breast and ovarian cancer in 1 in 200-400 females. Such women have an 85%

lifetime probability of developing breast and/or ovarian cancer, as compared to the approximately 10% risk for sporadic breast cancer.¹¹⁻¹² It is believed that genetic susceptibility is responsible for between 5% and 10% of all breast cancers.

The *BRCA-1* gene has been mapped to a region of several million base pairs on the long arm of human chromosome 17. Using approaches very similar to those used for the cystic fibrosis gene,⁴ the cloning and characterization of *BRCA-1* is in progress. The sequence of the gene and the function of its product are currently unknown. It is likely that mutation in *BRCA-1* is only one of many mutational events that must occur in breast cells for tumors to develop. However, it appears that *BRCA-1* may be one of the key genetic changes required. The majority of familial breast cancer families studied have mutations that map to the *BRCA-1* region of chromosome 17. Using RFLP analysis for DNA markers closely linked to *BRCA-1*, it is possible to determine with virtual certainty whether a woman in an at-risk family carries the mutant *BRCA-1* gene and is therefore at increased risk for developing breast cancer.

Compared to breast cancer, the genetic changes occurring during the development of colon cancer are more well-documented. Studies of families in which colorectal cancer occurs in high frequency due to any one of several genetic syndromes have been quite helpful in elucidating the genetic changes occurring during colon cancer development.¹³⁻¹⁷ One model that has emerged is based on the pattern of mutations in oncogenes and tumor suppressor genes that occur in a large proportion of colon tumors. (Figure 3) Mutations in certain of these genes appear in high frequency at certain stages of tumor initiation, promotion or progression. As for retinoblastoma and breast cancer, the familial forms of colon cancer are due to a germline mutation that confers genetic predisposition and high risk. For the syndrome familial adenomatous polyposis for example, the predisposition to early colon cancer development is due to mutation in a gene on chromosome 5 called *APC* (adenomatous polyposis coli) which appears to be an initiating stage mutation. This gene appears to be a tumor suppressor gene.

For another form of colon cancer, hereditary non-polyposis colorectal cancer (HNPCC), a gene mapping to chromosome 2 confers predisposition to this cancer. Recently, the HNPCC gene was cloned.^{16,17} It encodes a protein involved in a type of repair of damaged DNA known as mismatch repair. It is not difficult to see how a mutation in this gene, which renders it incapable of repairing DNA, could lead to cancer.

Although not absolute for every colon tumor, promotion and progression to malignancy require additional specific mutations in specific genes at particular stages. (Figure 3; Table II) In this type of model the sporadic forms of colon cancer develop later

Clinically Useful Gene Mutations in Cancer

Tumor	Oncogene	Tumor Suppressor Gene	Mutation	Use
Breast Carcinoma	myc neu	BRCA-1	overexpression overexpression unknown	prognosis prognosis diagnosis/detection of predisposition
Colon Carcinoma	ras	RB1	deletion	prognosis
		APC	point mutation point mutation deletion	staging/prognosis diagnosis/detection of predisposition
		DCC	deletion	prognosis
		p53	point mutation	prognosis
		MCC	amplification	diagnosis/prognosis/ detection of predisposition
Lung Carcinoma	myc ras	RB1 p53	deletion point mutation overexpression point mutation	prognosis prognosis prognosis prognosis
Retinoblastoma		RB1	deletion	detection of predisposition/ diagnosis
Chronic Myelogenous Leukemia		bcr/abl	translocation breakpoint identification	diagnosis w/o philadelphia chromosome

obtain sufficient DNA for testing, either tumor biopsy samples or blood samples suffice for most forms of testing. Biopsy material can be used to stage tumor progression based on the number of different protooncogene or tumor suppressor gene mutations that have occurred. Assuming that mutations in different genes occur at different times in tumor development, the greater the number of marker genes mutated, the more advanced the tumor. (Figure 3) If certain patterns of mutations in protooncogenes and/or tumor suppressor genes are established to be

in life because the target cells must first incur a carcinogen-induced *APC* gene mutation to initiate the process. The remaining mutational events would occur in the same basic pattern. These include mutations in both protooncogenes such as *ras* and *myc*, as well as in other tumor suppressor genes. Among the tumor suppressor genes are another apparent initiation stage gene *MCC* (mutated in colon cancer), and two others that act later, *DCC* (deleted in colorectal cancer) and *p53*. The *APC*, *FCC* and *DCC* mutations seem to be colon cancer specific. Mutations in *ras*, *myc* and *p53* occur frequently in many types of cancer, familial and sporadic.

The consistent appearance in high frequency of *BRCA-1*, *APC*, *DCC*, *myc* and *ras* mutations in breast and colon cancer provide tools useful in diagnosis, prognosis and presymptomatic screening. (Table II) Since only very small amounts of tissue are necessary to

associated with particular types of tumors with a particular prognosis, then analyzing tumors genetically will allow clinicians to make more informed decisions in diagnosing and predicting the course of disease, as well as in designing treatment protocols.

To date, genetic analysis of tumors has been useful in diagnosis and prognosis. Rational, molecular-based treatments have generally lagged because our understanding of how the mutations affect cell behavior are still largely unknown. One treatment type that is currently the subject of several clinical trials involves gene therapy to effect cures. We will devote an entire paper of this series to discussion of gene therapy. In it we will consider applications of gene therapy to cancer.

The identification of the breast cancer susceptibility gene has rekindled discussion and debate about the uses of molecular diagnostic tools and population

screening for cancer.^{11,12} Certainly, once the gene is cloned and mutations in it characterized, the discussions will intensify. If 1 in 200 females are actually carriers of the *BRCA-1*, the number of individuals who may avail themselves of any screening test developed will create an enormous burden for physicians, from the family practitioner to the genetic counselor to the surgeon. Since the *BRCA-1* gene confers a virtual certainty of developing breast and/or ovarian cancer, women who test positive must receive intense counseling regarding their options. Increased self-examination, mammography, ultrasound and biochemical tumor marker screening would appear to be a minimal recommendation. The number of women who elect prophylactic mastectomy or oophorectomy would likely increase dramatically. If prophylactic surgery is elected, when should it be done? How many will elect not to have children if there is a significant probability they will pass the gene to their daughters (or sons)? The need for psychological assessments of patients and providing emotional support in making these decisions will be identical to those that occur in dealing with any late-onset disease, such as Huntington's Disease. How many women will refuse to be screened? How will families deal with situations in which some females are proven to be at risk while a sister or daughter is not? Should at-risk women receive preferential treatment in clinical trials or receive prophylactic preventatives such as tamoxifen, even though the long-terms risks of most experimental treatments are unknown?

These are questions currently being raised regarding the *BRCA-1* gene and inherited forms of breast cancer. The same questions can also be asked for colon cancer or for any cancer in the future when the ability to identify either at-risk or high-susceptibility individuals become possible. Not part of the current discussions, but certain to be a major issue, will be to whom should the results of any screening tests for cancer (or any other disease) be made available? Will employers or insurance companies require such tests as a condition of employment or insurability? Of course, these are not questions that concern only physicians, society as a whole will have to deal with these issues.

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REFERENCES

1. Lindahl R: Molecular medicine: A primer for clinicians. Part I. Basic concepts of human gene expression. *SD J Med* 1993;45:115-120.
2. Lindahl R: Molecular medicine: A primer for clinicians. Part II. Recombinant DNA molecules. *SD J Med* 1993;45:152-157.
3. Lindahl R: Molecular medicine: A primer for clinicians. Part III. Molecular tools for analyzing human genes. *Sd J Med* 1993;45:197-201.

4. Lindahl R: Molecular medicine: A primer for clinicians. Part IV. Cystic fibrosis and the power and limitations of molecular medicine. *SD J Med* 1993;45:393-398.
5. Haber DA, Housman DE: Rate-limiting steps: The genetics of pediatric cancers. *Cell* 1991;64:5-8.
6. Harris CC: Chemical and physical carcinogenesis: Advances and perspectives for the 1990s. *Cancer Res* 1991;51:5023s-5044s.
7. Bishop JM: Molecular themes in oncogenesis. *Cell* 1991;64:235-248.
8. Hunter T: Cooperation between oncogenes. *Cell* 1991;64:249-270.
9. Marshall CJ: Tumor suppressor genes. *Cell* 1991;64:213-326.
10. Bailleul B, Brown K, Ramsden M, et al: Chemical induction of oncogene mutations and growth factor activity in mouse skin carcinogenesis. *Environ Health Perspect* 1989;81:23-27.
11. Biesecker BB, Boehnke M, Calzone K, et al: Genetic counseling for families with inherited susceptibility to breast and ovarian cancer. *JAMA* 1993;269:1970-1974.
12. King M-C, Rowell S, Love SM: Inherited breast and ovarian cancer. What are the risks? What are the choices? *JAMA* 1993;269:1975-1980.
13. Fearon ER, Jones PA: Progressing toward a molecular description of colorectal cancer development. *FASEB J* 1992;6:2783-2790.
14. Peltomaki P, Aaltonen LA, Sistonen P, et al: Genetic mapping of a locus predisposing to human colorectal cancer. *Science* 1993;260:810-812.
15. Aaltonen LA, Peltomaki P, Leach FS, et al: Clues to the pathogenesis of familial colorectal cancer. *Science* 1993;260:812-816.
16. Fishel R, Lescor MK, Rao MRS, et al: The human mutator gene homolog MSH2 and its association with hereditary nonpolyposis colon cancer. *Cell* 1993;75:1027-1038.
17. Leach FS, Nicolaides NC, Papadopoulos N, et al: Mutations of a mutS homolog in hereditary nonpolyposis colorectal cancer. *Cell* 1993;75:1215-1225.

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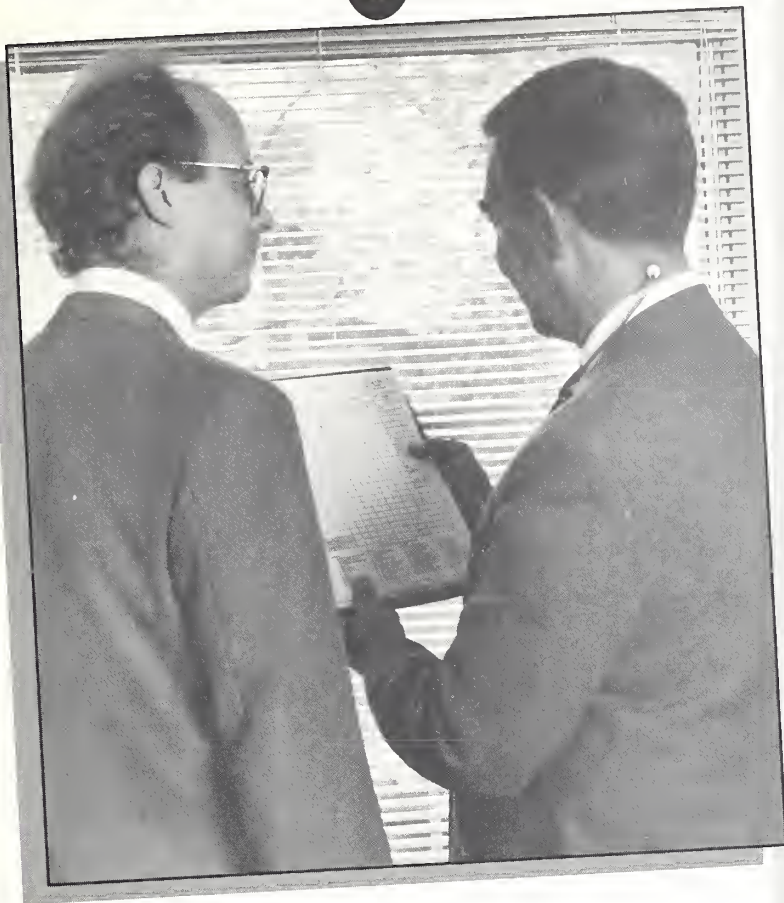
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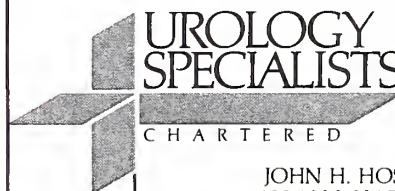
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The Data Collection, Drug Selection Blues

Mark Zwaska, MS, RPh, Brookings, SD

It is a familiar tune. A newly-diagnosed young hypertensive patient is in your office. The decision has been made to treat. You can choose one of twelve thiazide products or one of eight ACE inhibitors or one of twelve beta-blockers. Thirty-two options (at least) to treat one chronic condition. Then...look at the comparative data in the literature (when you have a minute) to form a scientific opinion on the advantages and disadvantages of each agent. Factor in patient expense, side effects, drug interactions and efficacy in your chosen sub-population—the answer is clear. **YOU NEED HELP!**

Rerun this scenario for antiarrhythmics, analgesics such as NSAIDS, antipsychotics, sleepers, etc, and it makes for a long day at the office.

But let's be practical. In reality, prescribers have a handful of medications that they use every day with which they are very comfortable. Clinical experience, over time, uncovers efficacy and safety performance. Experimentation with a new drug happens randomly, probably based on several factors:

- Available samples
- Drug industry motivation
- Colleague networking
- Literature review
- CME programs
- Patient preference

Does this system work? Maybe, but not every drug has access to the above modes of communication. Marketing, samples, published clinical research, CME and now even patient preference, to a certain extent is drug industry driven. Many examples and questions come to mind; do the big industry players get more time than the little guys? What criteria are used for drug industry access?

Every year the FDA approves 20-30 new chemical entities for marketing in the U.S. There are now over 900 products on the prescription market alone, not to mention OTC drugs. We all want the best drugs for our patients. Perhaps specialists are able to focus more on diagnostic and therapeutic advances in their own fields but broader fields such as primary care may be more vulnerable to the information explosion.

How do you battle the blues?

1. There is no substitute for critical evaluation of the medical literature. We need to pick 2 or 3 key journals within our interest area and read them religiously.

2. One or two abstract services (on-line, newsletter, etc) can also help keep us up to date.
3. Developing a relationship with a pharmacist that you trust can also be helpful to work through therapeutic dilemmas. This could be the patient's pharmacist or the SD Drug Information Center (1-800-456-1004). It could be a colleague that you know works hard at keeping up with the literature.
4. Involvement with talks to colleagues or the public usually is motivating, makes us stay current and makes us listen to our audience.

Drug selection is not easy and mistakes can be troublesome and expensive for patients. By keeping up with the literature and taking advantage of all drug information sources, the selection process can be easier. Indeed, we need to work together to advance the quality of patient care and beat the blues.



Edited by Brian Kaatz, Pharm.D.



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to eat.
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all those doctors
all those fish to keep
in fancy aquariums in their waiting rooms
sure sold them a bill of goods.
"Makes people more relaxed."
"Creates a calming atmosphere."
Almost as good as: "This won't hurt,
You may feel a little pressure here."
Right.*

*Watching fish doesn't relax that woman over there
waiting to hear the results of her breast biopsy.
And who wants to drink water after seeing
fishy feces dangling like little brown threads
out of finny wet bodies? Oh sure,
they purify it before you drink it.
With chemicals.*

*And watching fish doesn't keep me from feeling
the barnacles growing on my butt
from sitting for an hour past my appointment time.*

*What, my turn? But I was getting so attached.
The doctor takes my file and
walks me to the examining room.
"So, what are their names?", I ask.
"Whose names?", he wants to know.
"The fish."
He fixes me with a
by now familiar unblinking stare,
"Oh, we don't bother to give them names," he says
as he reels me in.*

Terri Gridley
Sioux Falls, SD

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Admission to theater performances or musical concerts is often by a perforated ticket with a stub attached. Prominently displayed across the ticket often appear the words "NOT GOOD IF DETACHED". I believe that these words have a special meaning for the South Dakota State Medical Association and the Alliance.

As your spouses we share your concerns about the future practice of medicine in the United States and the impact of the proposed changes on our health care system. I suggest that as two intimately bound organizations, we might become partners too. Our joint efforts can only strengthen the programs and goals of both organizations.

Here are a few ideas on how to use the expertise of the alliance as suggested by the American Medical Association Alliance.

1. Public Relations

The alliance is capable of generating a positive public image for the medical community through its community service and health projects.

2. Legislative Activities

Alliances can be of tremendous help writing letters, making phone calls, circulating petitions, and registering voters.

3. Health Projects

The AMA and the AMA Alliance have worked together to develop a variety of resource material that our organizations can use to combat community problems and to educate the public. The alliance has numerous volunteers with expertise in planning and managing projects as well as broad community contacts.

4. Mini-Internship Programs

These innovative programs pair physicians with legislative, educational, and community leaders. Using a four session, two day format, these leaders gain a better understanding of the problems and stresses physicians face. Mini-internship programs provide an unique opportunity to really make the alliance and medical association a team. Look for an exhibit table explaining these programs at the state meeting in June.

Like any partnership, developing a relationship takes work and communication. I encourage you to do both with your district alliances in a variety of programs and projects. The opportunities are endless, and the results could be impressive!

Helen Owens

Intraoperative Localization of Parathyroid Adenoma Using ^{99m}Tctechnetium Sestamibi

Charles Burns, MD, Mark Oppenheimer, MD, and Kirke Wheeler, MD

ABSTRACT

We herein illustrate an unusual but very helpful maneuver in the localization of parathyroid adenomas that have proven difficult to find at initial surgical exploration. This case also illustrates how metabolically active thyroid tumors can interfere with the localization of parathyroid tumors when using the technetium-thallium subtraction scan technique, and a possible way of overcoming such interference.

INTRODUCTION

When patients present with clinical and biochemical findings indicating the presence of a parathyroid adenoma, and the decision is made to attempt surgical excision of a suspected adenoma, it can be helpful to localize the adenoma preoperatively. The well known technetium-thallium subtraction scan has been successfully used for this purpose and has been reported as having a sensitivity for this purpose generally 80% or greater.¹ The procedure does have some technical limitations, and nuclear medicine practitioners are familiar with them.

Recently, there have been reports of a successful new technique for this purpose, using ^{99m}Tctechnetium sestamibi.²⁻⁴ We wish to report the utilization of localizing scintigraphy intraoperatively after an initial unsuccessful surgical exploration. This particular case was complicated by the concurrent presence of a metabolically active thyroid tumor which interfered with initial attempts at scintigraphic localization.

CASE REPORT

The patient, a 60-year old Caucasian woman, had undergone unsuccessful lithotripsy of a left renal calculus in August 1993, and the stone was subsequently removed surgically. Stone analysis revealed it to contain calcium oxalate, dihydrate, monohydrate and phosphate. Her calcium level in September was 12.3 mg/dl and C-terminal Pth assay was 205 (10-65 pg/ml). She was subsequently seen by an endocrinologist (mo), and on physical examination she was also discovered to have a 2.6 x 2.4 firm thyroid nodule in the mid-left lobe.

The rest of her physical examination was unremarkable. The thyroid nodule showed inhomogenous uptake of I-123 on thyroid scan, with prominence in the region of the isthmus. Additional blood work confirmed hypercalcemia of 15.0 mg/dl, phosphorus 1.7 mg/dl, urinary calcium of 380 mg/dl, and free T4 of 1.4 ug/dl and TSh of 0.41 uIU/ml. With these findings, the patient was suspected of having primary hyperparathyroidism.

A subsequent preoperative technetium-thallium subtraction scan was unhelpful, showing only a hot left thyroid nodule on the technetium portion, rendering the subtraction step equivocal because of suppression of the normal thyroid gland activity. The thallium scan portion was near normal.

The patient was taken to surgery. After approximately 4 1/2 hours of surgical exploration, 3 normal parathyroids were identified. The left lower parathyroid was not found; the left thyroid lobe was resected because of the thyroid nodule, but was not found to harbor parathyroid tissue. The exploration included the retrotracheal and retroesophageal spaces, the tracheoesophageal groove, the superior thymus and the carotid sheath. No parathyroid adenoma was found. After the left hemithyroidectomy was performed, the neck was closed.

Because of the unsuccessful exploration and persistent hypercalcemia and hypophosphatemia, a repeat localization scan was requested. This was accomplished using ^{99m}Tctechnetium sestamibi following the protocol published by Taillefer, et.al.⁴ The delayed image was strikingly positive in the region of the right

upper pole of the thyroid gland. (Figure 1) A CT scan of the neck showed one and possibly two cysts in the right thyroid lobe, but no tumors suspected of being adenoma were seen in any of the surrounding soft tissues. Because of the thoroughness of the previous exploration, the decision was made to attempt intraoperative scintigraphic localization at the time of reexploration.



Figure 1a

"Immediate" postoperative image taken 15 minutes after injection of technetium 99M-sestamibi. The left thyroid lobe and adenoma have been removed. Salivary gland, hepatic and cardiac activity are also seen.



Figure 1b

"Delayed" postoperative image taken at three hours after sestamibi injection. The right upper thyroid region shows focal persisting activity compatible with a parathyroid adenoma.

The patient was injected with sestamibi roughly two hours before the reexploration. In the operating room, a mobile gamma camera head was draped in a sterile plastic fluoroscopy cover and introduced into the surgical field. The head of the camera could then be maneuvered as necessary by the surgical team without contamination. At approximately three hours after sestamibi injection, and after the thyroid gland was exposed, a single static image was obtained, clearly demonstrating strong focal uptake of tracer as was seen in the preoperative scan. (Figure 2a) Using a sterilized 2.5 cm diameter round lead wafer, the focus was identified (Figure 2b) and localized to the right upper pole of the thyroid gland. The right upper pole was then bluntly opened with forceps, and a large parathyroid

adenoma was discovered within, measuring 3.2 x 1.6 x 1.4 cm, and weighing 2.95 gms. Postexcision scanning over the neck confirmed the removal of the tracer focus. (Figure 2c). The specimen scan clearly shows it to be the targeted lesion. (Figure 2d). Pathological ex-



Figure 2a

"Delayed" image taken just prior to induction of anesthesia for the reexploration clearly shows the focus of persisting activity.



Figure 2b

The lead wafer was positioned directly over the "hot spot" after the thyroid was exposed, localizing it to the upper right thyroid lobe.



Figure 2c

The adenoma has been removed from within the thyroid parenchyma. Other structures now appear more clearly after the removal of the adenoma.

amination of the specimen confirmed it to be a parathyroid adenoma. Postoperatively, the patient's serum calcium decreased and stabilized at about 8.5 within 24 hours, and she was discharged without further complications 4 days later.



Figure 2d

Image taken of the adenoma immediately after excision.

DISCUSSION

This case serves to illustrate the usefulness of the sestamibi scan in localizing parathyroid adenomas, and the ease with which the technique can be employed in the operating room in instances where the adenomas present a surgical challenge to locate. Because the sestamibi must be injected some time prior to surgery, it may not be feasible to attempt this technique in every instance unless the scan can be scheduled immediately prior to surgery. We did not have an opportunity to try the sestamibi scan before the thyroid adenoma was excised; it would have been of interest to see if the sestamibi scan could localize the parathyroid adenoma even in the presence of a hormonally active thyroid tumor. We know the technetium-thallium subtraction scan failed in this regard.


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REFERENCES


1. Ratliff B, Soon P, Macfarlane S, Hanelin L: Parathyroid scanning. *J Nuc Med Tech* 1986;14:34-39.
2. Coakley AJ, Kettle AG, Wells CP, et al: ^{99m}Tc-sestamibi—a new agent for parathyroid imaging. *Nuc Med Comm* 1989;10:791-794.
3. O'Doherty MJ, et al: Parathyroid imaging with technetium-^{99m}-sestamibi: Preoperative localization and tissue uptake studies. *J Nuc Med* 1992;33:313-318.
4. Taillefer R, Boucher Y, Potvin C, Lambert R: Detection and localization of parathyroid adenomas in patients with hyperparathyroidism using a single radionuclide imaging procedure with technetium-^{99m}-sestamibi (double-phase study). *J Nuc Med* 1992;33:1801-1807.

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From a Legal Perspective

Signing-Off on Medical Record Entries: Does it Really Matter?

MMIC recently closed a malpractice claim in which two physicians were named - not because they were both involved in rendering treatment, but because the lack of a sign-off on the progress note made it impossible to confirm which physician had actually seen the patient. The patient's recollection differed from the physicians; she believed Dr A had treated her, while the physicians believed it was his partner, Dr B. The case went to trial, with the jury ultimately deciding which physician they felt was responsible for the care.

Signing-off on all entries in the medical record is essential for many purposes. It is required by many third party payers; it is needed for identification of providers participating in care for follow-up treatment questions or internal quality improvement activities; and, as the above example demonstrates, it may become critical in reconstructing the treatment in the defense of a malpractice claim years later. It cannot be assumed that personnel who can identify the handwriting of authors of entries will still be available when identification is needed.

When developing a sign-off policy for your clinic, consider:

- All entries in the medical record should be signed-off with the initials or signature and title (MD, RN, etc) of the person making the entry. (In one clinic it was found that physicians were faxing progress notes from a satellite clinic to the main office where they were being recopied into the patient's chart and signed off by the person doing the copying. No notation was made of the name of the doctor who saw the patient. In this situation, it was impossible to later determine from the chart what physician was involved.)
- If initials are used, a master list of initials and full names should be maintained and kept current.
- If any physicians or staff have the same initials, full last names should be required.
- Signature stamps create many potential problems and their use is not recommended. However, if used, policy should dictate that they are to be used only by the person whose name is on the stamp.

Test your medical records: does each entry clearly designate who participated in each patient visit and who was responsible for entering each piece of information?

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CME CONFERENCES

JULY 1994

- July 1 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- July 6 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: William C. Duckworth, MD, Topic: Combination Therapy & the Treatment of Type II Diabetes, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- July 7 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 7 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 7 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 7 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- July 11 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145
- July 11 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- July 12 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- July 13 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- July 13 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Nicholas Vogelzang MD, Topic: The Treatment of Metastatic Renal Carcinoma, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- July 13 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- July 13 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- July 14 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 14 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- July 14 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 14 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 15 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Topic: Renal Effects of the Calcium Antagonists, Info: Med Staff Office - 341-8107.
- July 15 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- July 20 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: Clinical Pathology Conference, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- July 20 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, Topic: Minimalistic Thinking in Vascular Occlusive Disease, Info: David Rossing, MD, 331-3490.
- July 21 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 21 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 21 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 21 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- July 22 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- July 25 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- July 27 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- July 27 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- July 27 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Stanley Franklin, MD, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- July 28 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 28 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.

- July 28 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 28 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

AUGUST 1994

- August 2 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- August 3 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- August 4 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 4 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 4 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 4 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- August 5 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- August 8 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- August 9 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- August 10 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Ralph Lazzara, MD, Topic: At the Crossroads: New Directions in the Treatment of Ventricular Arrhythmics, Info: Dr. Brian T. Hurley - 339-6790 (Barbara).
- August 10 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- August 10 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- August 11 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 11 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 11 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- August 11 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

MISCELLANEOUS MEETINGS

JULY

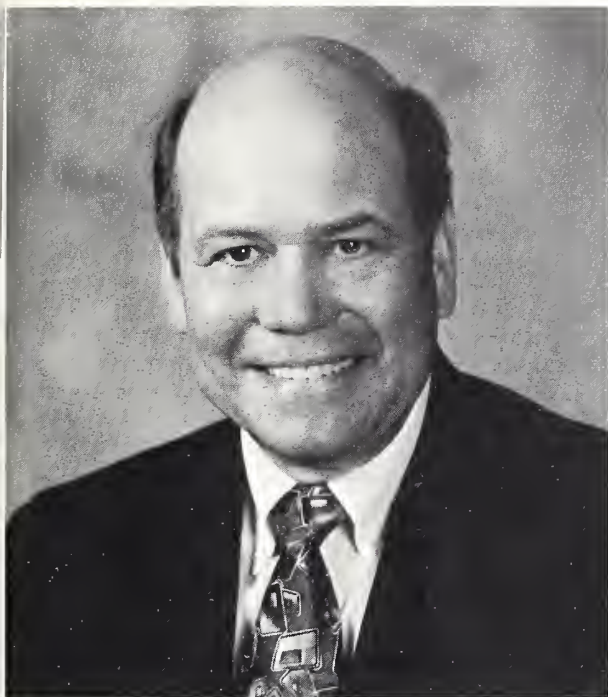
- July 1-3 **24th Annual Sports Medicine Symposium**, Sheraton Hotel, Atlantic Beach, NC. Fee: \$85. 7 hrs AMA Category 1 credit. Contact: Alan Skipper, North Carolina Medical Society, PO Box 27167, Raleigh, NC 27611. Phone: 1 800-722-1350.
- July 27-28 **3rd Annual Conference: Current Concepts in Sub-Acute Care—Defining the Difference**, Marriott Hotel, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Suite #2130, Omaha, NE 68131. Phone: 1 800-548-2633.

AUGUST

- August 4-8 **Anesthesiology Review Course—Professional Seminars**, Nashville, TN. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Suite #2130, Omaha, NE 68131. Phone: 1 800-548-2633.
- August 19-21 **Midwest Breast Imaging Conference**, Omaha Marriott Hotel, Omaha, NE. Fee: \$300. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1 800-642-1095.

SEPTEMBER

- September 15-17 **American College of Physicians, South Dakota Chapter Scientific Meeting**, Golden Hills Resort, Lead, SD. Fee: \$85. Contact: John Barker, Jr, MD, 111 W 39th St, Sioux Falls, SD 57105. Phone: 331-4050.
- Sept 26-Oct 1 **Emergency Medicine, 1994, Skills and Knowledge for the Practicing Physicians**, U of Neb, Student Union, Lincoln, NE. AMA Category 1 credit avail. Fee: \$700. Contact: Ctr for Cont Educ, U of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1 800-642-1095.



**James R. Reynolds, MD, President
South Dakota State Medical Association**

The information highway is paving a new road through the South Dakota medical community. The campaign for the South Dakota Health Sciences Information Center is gaining momentum on its way to bringing new technologies and resources to our state. I recently spoke with Dean Talley and, at present, nearly \$1 million has been pledged toward the \$4.2 million goal for this project.

Though this facility will function in many ways as a library, it is referred to as an "information center" so as not to evoke images of only bookshelves and periodicals. It will be so much more than words on paper. In addition to the 100,000 books it will house, the South Dakota Health Sciences Information Center, will utilize computer technology to bring together information from around the state and around the world. Physicians will have at their fingertips, management technologies and clinical databases to aid in research and diagnosis.

The network will not only provide access to information, but will also provide the means to improve clinical support to physicians throughout the state. A staff of uniquely qualified information specialists on-site at the Information Center will facilitate these information

searches and research requests. Such a network will be similar to having a staff of experts from around the world available around the clock to physicians here in South Dakota. All accessible simply by picking up a telephone or turning on a PC and modem.

This new network clearly will link South Dakota medicine to the future and secure a position for our state in the forefront of medical information technology. In a state with limited resources, such as ours, it makes sense to combine into one premier facility all of the resources from colleges, hospitals and physician offices.

It is my hope that the physician community of South Dakota will generously support this project. A special thank you to those of you who have already given and a special encouragement to those who are yet considering a gift.

A handwritten signature in dark ink, reading "James R. Reynolds". The signature is fluid and cursive, with a large, stylized "R" at the end.

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Kidney Transplantation in South Dakota

Medical and scientific history was made in South Dakota by transplant surgeon John J. Ryan (Professor and Chairman, Department of Surgery, USD), who performed the state's first kidney transplant on July 9, 1993, with excellent support of the medical and nursing staffs.

To date, the results have been excellent. The one exception was a patient who decided eight months post-operatively to discontinue his immunosuppressive therapy, resulting in immune rejection of the transplanted kidney.

As compared to dialysis, kidney transplant is closest to cure, with patients feeling the healthiest. However, surgery is not a cure. There is, for example, a life-long rejection potential, requiring daily immunosuppressive drugs, such as Cyclosporin as well as adrenal corticosteroids. These drugs may cause problems, such as increased susceptibility to infections, increased weight, hypertension, nephrotoxicity, drug interactions and other adverse reactions.

Life Source, the organ procurement organization, established their first South Dakota office in 1992, following the approval of the South Dakota Transplant Program. To date, the number of organs received in South Dakota (1994) has surpassed all previous numbers for a similar time period.

Kidney transplant patients no longer must leave the state for surgical expertise and quality post-operative care. Cost effectiveness is increased.

Dr Ryan's research is proceeding in the areas of immunology and applied renal physiology. He received an Award in 1987 from the American Society of Clinical and Laboratory Investigators, for his research work into DNA ploidy studies in thyroid cancer. He is not only certified by the American Board of Surgery but also is qualified in surgery (F.R.C.S.) both in Ireland and in the United Kingdom.

Robert Van Demark Sr, MD
Guest Editor



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*Kyle Greening
Sioux Falls, South Dakota*

Current Concepts Review: Management of Melanoma

Samir N. Rizk, MD, FICS and John J. Ryan, MD, FRCS, FACS

ABSTRACT

Management of melanoma is still based almost exclusively on the thickness of the primary lesion. Recent studies demonstrated that a surgical margin of 1 cm is adequate for most thin melanomas (1 mm or less in Breslow thickness), whereas thicker lesions may be removed with a surgical margin of 2 to 3 cm without adversely affecting the rate of local recurrence or patient survival. The value of prophylactic lymph node dissection in the management of primary melanoma is still debated. The role of chemotherapy and immunologic modalities in the treatment of this type of neoplasm requires better understanding and awaits the results of randomized, prospective studies.

INTRODUCTION

Melanoma, the most malignant of skin cancers, is a highly curable tumor when diagnosed and treated prior to deep invasion of the dermis and before secondary lymph node metastasis has occurred. The five year survival rate is 95% or greater in patients who have melanoma less than 0.76 mm thick,¹ thus emphasizing the importance of early diagnosis. The incidence of melanoma is increasing at an alarming rate, not only in countries such as the USA and Australia, but also in countries such as Scotland, a location not traditionally endowed with excessive ultraviolet radiation. The average increase in the world incidence of melanoma is roughly 7% per year; an alarming statistic that means that in Scandinavia, by the year 2000, melanoma will be a more common neoplasm than breast cancer.²

In this article, we discuss the diagnosis, pathology, staging and the treatment modalities available in melanoma.

DIAGNOSIS AND STAGING

Exisional biopsy and histopathologic examination is mandatory in all cases of atypical or symptomatic nevi.³ The differentiation between melanomas and benign conditions such as common nevi depends on the clinical behavior of the lesion. Mackie (1990) has postulated a list of criteria to help differentiate melanoma from common nevi. At least one of the major criteria is always present in a malignant lesion. (Table I)⁴

TABLE I	
Major and Minor Criteria of Malignant Change in Benign Nevi	
Major Criteria	Minor Criteria
change in shape	crusting or bleeding
change in color	sensory change
change in size	diameter more than 7 mm
	inflammation
(After Mackie RM, Clinical Recognition of Early Invasive Malignant Melanoma. British Medical Journal 1990;301:1005-1006)	

The micro-staging and nodal status are the most important factors that correlate with the clinical outcome of patients with melanoma.⁵ Clark's classification of melanoma described five levels of invasion related to the histologically defined layers of the skin.⁶ This classification actually graded melanoma according to the depth of invasion through the dermis. Breslow described another method of micro-staging by using an ocular micrometer from the top of the granular layer to the base of the tumor.⁷ Balach and colleagues⁸ reported an inverse relationship between tumor thickness and five-year survival, and that tumor thickness conveys more prognostic information than does the determination of Clark's level of invasion. (Table II) A study by Clark and colleagues (1989) concluded that six factors can be used to predict survival, particularly in

patients with lesions >0.7 mm thick. These factors were mitotic rate per square millimeter, presence of tumor-infiltrating lymphocytes, tumor thickness, anatomical site of the lesion, sex of the patient and evidence of histological regression.⁵

TABLE II

The Relationship Between Tumor Thickness and Five-year Survival

Thickness Range (mm)	Patients	5 years Survival (%)
<0.75	357	89
0.76 - 1.49	388	75
1.50 - 2.49	295	58
2.50 - 3.99	218	46
>4	184	25

(In: Balch CM, Milton GW, eds. *Cutaneous Melanoma: Clinical Management and Treatment Results Worldwide*. Philadelphia, JB Lippincott 321)

Regional Lymph Node Involvement

The prediction of survival in patients with melanoma depends mainly on the thickness of the primary lesion and whether the regional lymph nodes are involved.^{9,10} The occurrence of regional lymph node metastases is associated with poor prognosis, and the number of involved lymph nodes is inversely correlated with the survival rate.¹¹ Bevilacqua (1990) reported that the five-year survival rate for patients with only one or two lymph nodes range from 30% to 55% while the five-year survival rate for patients with multiple nodal involvement are between 8% and 26%.¹²

Other Prognostic Factors

The anatomic location has been recognized as significant in terms of prognosis. Truncal lesions, excluding lesions of the hands and feet, have a lower survival rate than lesions arising on the extremities. Lesions of the hands and feet carry a significantly worse prognosis than do lesions that occur on the arms or legs.¹³ Females with melanoma have a better prognosis than do males, however, the incidence of truncal melanoma is greater in males than in females.¹⁴

TREATMENT

Surgical Excision of the Primary Lesion

Until recently, the traditional approach has been excision of the primary melanoma with a margin of 3-5 cm. This approach has been modified by the concept that the depth of invasion and thickness of the tumor affect the prognosis regardless of the extent of the margin. Based on a prospective study by the World Health Organization (WHO) in which 612 patients were studied, the first group of 305 patients had a margin of excision of 1 cm. The second group that consisted of the remaining 307 patients had a margin of

excision of about 3-5 cm. The results indicated no recurrence in patients with lesions less than 1 mm thick, regardless of the margin of excision.¹⁵

In a prospective randomized trial by Veronesi (1988), in patients with a melanoma lesion less than 2 mm thick, no difference in local or metastatic spread was found between patients whose lesions were excised with 1 cm margins and those with margins of 3 cm or more. Also, there was no difference in disease-free interval or survival between the two groups in this study.¹⁷ These results clearly indicate that 1 cm excision margins for lesions less than 1 mm thick result in excellent local control. However, melanoma more than 1 mm thick may be excised with 3 cm skin margin with no adverse affect on survival.¹³ This is supported by a randomized, prospective study of Melanoma Inter-group comparing 2 cm with 4 cm surgical margins in the treatment of melanoma between 1 and 4 mm thick. This study showed that 5-year survival and local recurrence rates are similar between the two groups.⁹

Treatment of Regional Metastasis

There is still controversy about prophylactic lymph node dissection. Some surgeons prefer to excise clinically normal-appearing regional lymph nodes because of the risk of occult or microscopic metastases. There are many disadvantages to lymph node dissection, e.g. delayed wound healing and limb edema. Another complication of lymph node dissection is satellitosis, i.e. entrapment of melanoma cells in lymphatics, observed as subcutaneous or intracutaneous metastases, which was reported from 4 to 20 percent in some studies.^{18,19}

In prospectively randomized trials sponsored by the World Health Organization (WHO), 553 patients with melanoma were randomized to either wide excision and prophylactic lymph node dissection, or wide excision followed by lymphadenectomy for clinically positive nodes. The results indicate no significant difference in survival between the two groups, and the survival rate depends mostly upon the thickness of invasion of the tumor.²⁰

There seems to be little benefit in prophylactic lymph node dissection in patients with lesions less than 0.76 mm since these lesions have a very low incidence of infiltration. In patients with melanoma that are more than 4 mm thick, prophylactic lymph node dissection is of little benefit since the prognosis is very poor. The question of prophylactic lymphadenectomy really centers around intermediate cases of melanoma with lesion thickness between 0.76 mm to 4 mm.^{21,22}

In contrast to the WHO study, patients with intermediate-thickness lesions who were treated with wide excision plus prophylactic lymph node dissection had significantly higher survival rates when compared with those who had wide excision alone.²¹ Despite the results of this study by Balach (1988), the efficacy of

prophylactic lymph node dissection needs more prospective assessment.

Radiation Therapy

Radiotherapy is mainly used for palliation of late cases of melanoma especially for cutaneous metastatic deposits.¹ In some cases of painful metastatic bone disease and brain secondaries, radiotherapy may be of benefit.¹ Radiotherapy is not very effective against melanoma and the response rate is 40% at best.²³ Overgaard reported that increased doses of radiation up to 400 cGy may be beneficial, and such treatment gave a nearly 60% complete regression rate compared with 33% for doses less than 400 cGy.²⁴ In another study using a direct neutron beam, better results were obtained and complete regression in 70% of cases was reported. However, survival was unchanged with a median figure of 14.5 months.²⁵

Chemotherapy

Many chemotherapeutic agents have been tried in the treatment of disseminated melanoma. None has resulted in the acceptance as standard therapy.²⁵⁻²⁷ Chemotherapy is still palliative and is not curative.

The best-studied single agents for the treatment of melanoma, dacarbazine (DTIC) and nitrosoureas, have objective response rates between 10% and 20%. Most patients have partial responses, and patients who respond to the treatment have survived longer than nonresponders. Patients with metastatic lesions in the skin, subcutaneous tissue and lymph nodes respond to chemotherapy much better than those patients with liver, bone and brain metastases.²⁸⁻³⁰

DTIC is the most commonly used single agent and has a response rate of about 20%, and the duration of response is 5 to 6 months.³¹⁻³⁴ Complete responses occurred in subcutaneous and lymph node metastases.³² Nausea and vomiting are common side effects of dacarbazine. A combination of lorazepam, dexamethazone and metoclopramide is an effective antiemetic regimen.^{35,36} Other side effects of dacarbazine include thrombocytopenia, neutropenia and local pain at the site of injection, but are usually mild. Life threatening liver failure due to hepatic necrosis has occurred in rare cases. Due to the hematologic toxicity of this agent, complete blood counts should be done frequently during treatment.³¹

Nitrosoureas are another group of agents with defined activity against melanoma. Carmustine (BCNU), lomustine (CCNU), semustine (methyl-CCNU), and fotemustine are the best studied of this class.³⁷ Response rates are generally between 10% and 20%. The hematologic toxicity of the nitrosoureas can be more severe than the toxicity of DTIC.³⁸⁻⁴⁰

Fotemustine was reported to induce a partial response in 36 patients with brain metastases,

presumably because it has the ability to penetrate into cells and to cross the blood brain barrier.^{40,41}

The role of combination chemotherapy in treatment of advanced melanoma is not entirely clear. The regimen of bleomycin, vincristine (Oncovin), lomustine and dacarbazine (BOLD) showed variable response rates in different trials ranging from 4% to 46%.^{42,43} Reasons for such differences include patient selection, presence of silent sites of metastases and the difference in the duration of survival between responders and nonresponders.

Another clinical trial using combination chemotherapy DTIC, a vinca alkaloid, and cisplatin, reported a response rate of 32%.⁴⁴ Since this regimen was not compared to DTIC, it is not possible to confirm that this is better than dacarbazine used as a single agent.

A combination regimen, often called the Dartmouth regimen, comprised of DTIC, BCNU, cisplatin and tamoxifen, has a reported response rate of 46% (95% confidence interval, 38% to 54%) in 141 evaluable patients in sequential phase II studies.^{45,46} Again, no direct comparison with DTIC has been made.

The value of adjuvant chemotherapy in the treatment of melanoma is not established. A clinical trial by Veronesi et al of 761 patients confirmed that there were no significant differences in results among groups of patients treated with surgery alone, surgery with DTIC, surgery with BCG vaccine and surgery with a combination of these agents.⁴⁷

In a recent prospective study, Nathanson showed that megestrol acetate may contribute to a high objective response rate and prolonged median survival in patients with melanoma when used with a chemotherapeutic regimen of dacarbazine, carmustine and cisplatin.⁴⁸ The antitumor effect of megestrol acetate has been reported in several randomized studies performed in patients with cancer anorexia/cachexia.^{49,50}

Since most of the chemotherapeutic agents do not pass the blood brain barrier, surgery and radiotherapy are the modalities used most commonly in the treatment of brain metastases.²⁸

Biologic Therapy

The immune system undoubtedly plays an important role in the progression/regression of melanoma.⁵¹ The role of lymphocytes is very important in the regression of lesions of melanoma. Cytotoxic T lymphocytes have been isolated from patients with melanoma; these cytotoxic cells specifically kill melanoma cells.⁵¹ Recombinant DNA technology facilitated the production of cytokines such as interferons and interleukins in large enough quantities to conduct clinical trials with these agents.^{52,53} Type I interferon and interleukin 2 (IL2) have been studied most extensively in the treat-

ment of melanoma.⁵²⁻⁵⁴ Monoclonal antibodies and active immunotherapy by vaccination are other treatment modalities still under investigation.^{51,55}

The use of recombinant human interferon- α by many investigators has shown the antitumor activity of this agent.^{52,53,56} The objective response rates in these studies average about 15%. The side effects of interferon- α include myalgia, chills, fever, flu-like symptoms and anorexia, and occasionally require cessation of therapy.^{56,57} Becker et al reported the occurrence of antiphospholipid syndrome in association with immunotherapy using α -interferon for patients with melanoma.⁵⁸ This abnormality, in addition to its association with thrombosis, was detected as a prolongation of the partial thromboplastin time (PTT), which cannot be corrected by the addition of normal human plasma.⁵⁸ Most of the clinical responses to α -interferon therapy are partial and short-lived, although some investigators reported durable complete responses.^{52,53,56} Interferon- α may have a delayed response that appears 12 months after the start of treatment.⁵⁶

Interferon- α has been evaluated in combination with other cytokines such as IL-2 in the treatment of melanoma and little activity has been observed. The use of high doses of IL-2 can induce regression of established micrometastases in liver and lung.⁵⁴ IL-2 mediates its action by the activation of the lytic activity of lymphocytes for tumor cells. The activated lymphocytes are called lymphokine-activated killer (LAK) cells. The combination of IL-2 and LAK cells in the treatment of melanoma has produced much better results in animal models than either treatment alone. Clinical trials of high-dose bolus injections of IL-2 with or without the addition of LAK cells, have demonstrated reproducible responses in patients with metastatic melanoma, with response rates of 10% to 25% using several doses and schedules of administration.⁵⁹ The side effects of IL-2 can be severe and dose dependent. Arrhythmia, hypotension, oliguria, pulmonary insufficiency and CNS changes are considered reversible with the exception of neurologic effects which reverse slowly.⁶⁰

Other biological therapies used in the treatment of melanoma include monoclonal antibodies and active immunization.

Most of the monoclonal antibodies (MoAbs) are of mouse origin, and reach tumor sites after systemic administration.⁶¹ The effect of MoAbs in the treatment of complement and triggering killing of melanoma cells in the presence of blood mononuclear cells (antibody-dependent cellular cytotoxicity).^{61,62} The majority of clinical trials with MoAbs used systemic administration, but one trial used isolated limb perfusion. Most responses have been observed at lower doses (≤ 30 mg/m² daily). Durable responses in soft tissue or visceral lesions have been observed in a small number of

patients, in some cases lasting more than two years.⁶³ MoAbs can produce neurologic symptoms and severe pain that, even in low doses, limit the use of MoAbs in the treatment of melanoma.⁶⁴

Tumor vaccine or active immunization with purified antigens, recombinant vaccines, and genetically modified melanoma cells have been tried for a long time. Although vaccination can induce an immune response to melanoma, many problems exist including heterogeneity of tumor antigen and the weak immune response to tumor antigens.^{65,66} None of the randomized trials has demonstrated a survival or disease-free survival advantage in patients that received vaccination therapy.⁶⁶

CONCLUSION

Melanoma is becoming a more common disease, and the incidence, which has doubled in the last ten years, is increasing faster than any other tumor except lung cancer in women. The reasons for the rising incidence of melanoma are not defined but may be due to increased exposure to sunlight, increased amounts of ultraviolet radiation caused by decreasing levels of the stratospheric zone, and earlier detection.

Patients who are diagnosed in early stages of the disease can be cured by simple surgical excision. Most melanoma lesions can be diagnosed clinically. It is important for physicians to know the clinical characteristics and biological behavior of this type of tumor. Treatment of disseminated melanoma by chemotherapy and immunotherapy are promising and may result in good remissions. More clinical research is needed to improve these new approaches.

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REFERENCES

1. Hunter DC: Controversies in the management of malignant melanoma. *Br J Hosp Med* 1993;49:174-183.
2. Monson JRT: Malignant melanoma: A plague of our times. *Br J Surg* 1989;76:997-998.
3. Bagley FH, Cady B, Lee A, Legg MA: Changes in clinical presentation and management of malignant melanoma. *Cancer* 1981;47:2126-2134.
4. Mackie RM: Clinical recognition of early invasive malignant melanoma. *Br Med J* 1990;301:1005-1006.
5. Clark W, Elder DE, Guerry D, et al: Model predicting survival in stage I melanoma based on tumor progression. *J Natl Cancer Inst* 1989;81:1893-1904.
6. Clark WH Jr, Ainsworth AM, Bernardino EA, et al: The developmental biology of primary human malignant melanomas. *Semin Oncol* 1975;2:83.
7. Breslow A: Thickness, cross-sectional area and depth of invasion in prognosis of cutaneous melanoma. *Ann Surg* 1970;172:902-908.

8. Balch CM, Soong SJ, Shaw HM, et al: An analysis of prognostic factors in 4000 patients with cutaneous melanoma. In: Balch CM, Milton GW, eds: **Cutaneous Melanoma: Clinical Management and Treatment Results Worldwide**. Philadelphia PA: JB Lippincott;1985:321.
9. Ross MI: Recent advances in the treatment of malignant melanoma. **Cancer Bull** 1992;44:301-308.
10. Callery C, Cochran AJ, Roe DJ, et al: Factors prognostic for survival in patients with malignant melanoma spread to the regional lymph nodes. **Ann Surg** 1982;196:69-75.
11. Calabro A, Singletary SE, Balch CM: Patterns of relapse in 1001 consecutive patients with melanoma nodal metastases. **Arch Surg** 1989;124:1051-1055.
12. Bevilacqua RG, Coit DG, Rogatko A, et al: Axillary dissection in melanoma: prognostic variables in node-positive patients. **Ann Surg** 1990;212:125-131.
13. Mastrangelo MJ, Baker AR, Katz HR: Cutaneous melanoma. In: DeVita, VT, Hellman S, Rosenberg SA, eds. **Cancer: Principles and Practice of Oncology**. ed 2. Philadelphia, PA: JB Lippincott;1985.
14. Balch CM, Soong SJ, Shaw HM, Virist MM, McCarthy WH: An analysis of prognostic factors in 8500 patients with cutaneous melanoma. In: Balch CM, Houghton AN, Milton GW, Saber A, Soong SJ, eds. **Cutaneous Melanoma**. 2nd ed. Philadelphia; JB Lippincott 1992;165,
15. Veronesi U, Cascinelli N, Adamus J, et al: Thin stage I primary cutaneous malignant melanoma: Comparison of excision with margins of 1 or 3 cm. **N Engl J Med** 1988;318:1159-1163.
16. Bagley FH, Cady B, Lee A, Legg MA: Changes in clinical presentation and management of malignant melanoma. **Cancer** 1981;47:2126-2134.
17. Veronesi U, Cascinelli N, Adamus J, et al: Thin stage I primary cutaneous malignant melanoma. **N Engl J Med** 1988;318:1159-1162.

18. Stehlin JS Jr, Smith Jr, Jing BS, Sherrin D: Melanomas of the extremities complicated by intransit metastases. **Surg Gynecol Obstet** 1966;122:3-14.

19. Balch CM: Surgical management of regional lymph nodes in cutaneous melanoma. **J Am Acad Dermatol** 1980;3:511-524.

20. Veronesi U, Adamus J, Bandiera DC, et al: Delayed regional lymph node dissection in stage I melanoma of the skin of the lower extremities. **Cancer** 1982;49:2420-2430.

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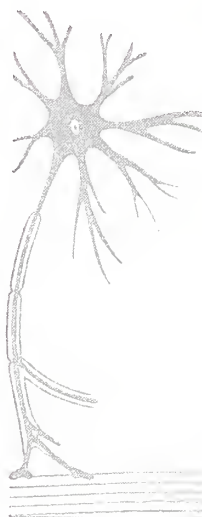
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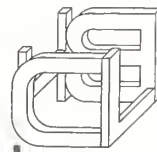
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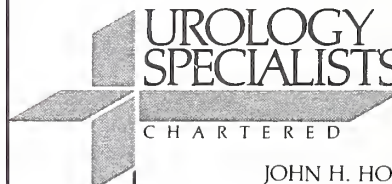
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Women Voicing Their Autonomy: The Changing Picture of Women's Health Care

LuAnn Eidsness, MD and Ann L. Wilson, PhD.

ABSTRACT

In recent years women's health concerns have received considerable attention. Both women and the medical establishment have recognized how biases of the past have affected clinical decision making and research affecting women's health. This article explores potential responses to these deficiencies. It suggests that training for health professionals that helps them become more attentive to patient's concerns and respectful of their autonomy will benefit all patients, regardless of gender. In addition, research that focuses upon women's health will benefit all of society

Health care for women is significantly evolving. Policies are coming from the National Institutes of Health to local hospitals and physicians regarding changes in women's health care needs. This paper discusses the forces at play in the process and provides generic recommendations for how women's health care may be optimally delivered.

Not uncommon scenarios of the past included women going to their physicians and blindly following advice (or not) and often feeling frustrated by the lack of meaningful communication that was a part of their office visits. The unfortunate reality is that these scenarios continue to repeat themselves in today's world. Many contemporary women, however, are informed consumers of health care and have begun to demand and expect more of the medical profession. Clearly women are expressing the need for their autonomy to be respected and are creating expectations of the health care provider that may be difficult for the traditional practitioner to accommodate.

Indeed Kirshstein, the acting Associate Director for Research on Women's Health, for the National Institutes of Health Office of Research on Women's Health in 1991 observed wide concern about:

whether women are taken seriously by their physicians; whether they receive the same attention and are considered to be as intelligent and knowledgeable as their male patients; whether their complaints are considered trivial when the complaints of men are not; whether they are given medications they do not need and for which there is no evidence of efficacy in women;

whether, in point of fact, they are considered important members of society, capable of assessing the fact that they may have an illness and be adult enough to talk to the physician about it. They are tired of "being talked down to."¹

These concerns have been verified in a variety of studies showing that, in fact, women have less access than men to important medical care. For example, gender is correlated with the likelihood that a patient with kidney disease will receive dialysis or a kidney transplant.^{2,3} Management of women with cardiac disease has been less aggressive than for men.^{4,5} Tests to diagnose lung cancer are less frequently ordered for women than for men.⁶ Gender bias is also observed in the treatment of AIDS and alcoholism.⁷

Recognizing the documentation of these disparities in how women, as opposed to men, are treated by the medical establishment, the Council on Ethical and Judicial Affairs of the American Medical Association (AMA) observes that social attitudes including stereotypes and prejudice may play themselves out in a variety of more subtle ways.⁸ In its statement on gender disparities in clinical decision making, the AMA reviews findings showing that physicians are more likely to assume that women's health complaints are manifestations of emotional, as opposed to physical causes. It responds to such information with warnings of how such perceptions may be doing a disservice to both sexes in that women's genuine symptoms may be ignored while men may underuse health care services and consequently suffer the consequences of failure to seek necessary treatment.

To any casual observer, the fact that the average woman lives longer than most men is very apparent. One may easily assume that women are therefore healthier and that the conditions that they experience later in life are a normal part of aging. This perception is under current scrutiny and greater recognition is today given to the fact that women have greater morbidity and chronic debilitating illness than men. Though they live longer, their quality of life is increasingly recognized as including disabilities (incontinence, osteoporosis and coronary heart disease) that perhaps could be prevented or better treated.⁹

Influences Affecting Change in Women's Health Care: Women and Medicine

An analysis of changes that are affecting how women receive care identifies two major forces: women themselves and the medical establishment. A hybrid of these two influences is reflected in the observation that women themselves are more than ever before represented among medical professionals and they are voicing advocacy for their patients.

The past few decades have brought enormous change for American women. The 1960's, in general, was a time of rapid evolution for many structures of American society. These times also included questioning of authority and reeling against the establishment. Out of this era came women who demanded new social and political rights that required different and more respectful responses from the medical profession. The Boston Women's Health Collective in its 1973 publication of *Our Bodies, Ourselves*¹⁰ represented women's initiative in teaching each other about personal health concerns. This movement empowered women with information that enabled them to make informed personal medical decisions and represented their exercise of personal autonomy in a manner not before so readily observed by the medical establishment.

Some physicians responded and continue to respond to this movement with resistance toward what it represents. For paternalistic physicians such assertive approaches to health care are a grave affront to their "trust me blindly, I'm the doctor" approach to patients. For other physicians whose paternalism is more subtle and expressed with the attitude of "tell me about your problem and I'll decide what is best for you," these forthright women present different challenges. These physicians may find such assertiveness as betraying the respect and deference they believe and expect patients should show towards them.

Women not only are changing in demanding that their autonomy be respected and to be partners in decisions that affect their health they also have recognized how their health concerns have been neglected by the biomedical research community. With the leadership of several women members of the United States Congress, in the early 1990's, the National Institutes of Health was investigated by the Government Accounting Office to examine why women had been excluded

from research samples.¹¹ The findings of this investigation revealed that deficits existed in how policies were implemented that benefit women's health.¹² Essentially what has come to be recognized is how clinical trials have primarily involved white male subjects and the findings from these have been extrapolated to apply to women.¹³ New provisions placed upon the NIH by Congress in 1993 now require that all research explores include women and minorities unless special provisions are made.

Over the past decades women have made progress in identifying how their health needs must be addressed and have influenced the medical profession's recognition of how their autonomy must be respected. The medical establishment too has changed to accommodate the demands expressed by women. Credit, however, must be given to how some of this internal change from within the profession has been influenced by the growing number of women who now are among the ranks of physicians. Observers note that it is not mere coincidence that during the same years women were essentially absent from the world of science and medicine there was a paucity of research on women's health concerns and studies of diseases affecting both genders excluded women for their samples.⁷

The AMA representing organized medicine has recently shown its support for women by distinctly recognizing how gender disparities in biomedical research have been a part of the history. It issued a statement indicating that "results of medical testing done solely on men should not be generalized to women without evidence that results can be applied safely and effectively to both sexes."⁸

Perhaps most illustrative of the profession's response to its inadequacies in treating women is the current recommendation that a new "women's health" specialty be developed.¹⁴ Those that advocate this new specialty use geriatrics as the model to justify its creation. Even this new sub-specialty of geriatrics was met with resistance early in its development, but has now established itself as playing a vital role in the care of and research for the elderly. It is the geriatrics multidisciplinary approach that is seen as vital in shaping the health care for women. A women's health specialty is proposed to include a mixture of primary care, ambulatory gynecology, and psychiatry with additional training in endocrinology, nutrition, sports medicine and orthopedics. The proponents of this new specialty recommend that those physicians with this special training must maintain a respectful, collaborative, consumer-oriented approach to their care and treat their women patients as partners as health care is provided.

While such a new specialty may be worthy of consideration, what is most important to consider as this possibility is examined is what such a step represents. Why is it that a need has been identified for women to have a special niche in the medical care establishment? Are their needs not recognized when they are treated in a setting where men also receive care? Recognition

must be given that for too long women's health care needs were subsumed to be primarily related to reproductive functions. Does a new women's health specialty need to be developed in order to remind physicians that women are more than their reproductive organs? Must women receive care by specialists in order to receive appropriate attention?

Comments

We oppose the development of a women's specialty as a response to the shortcomings identified in how medical care and research has treated women. Rather, we suggest that in the 1990's the role of the generalist be strengthened for the benefit of comprehensive, respectful, + responsive care for both men and women. We recognize that there will be those that oppose this stand and instead propose that obstetrician/gynecologists should be the primary care providers for women. The importance of this specialty is indisputable, but women's comprehensive needs expand beyond the focus of obstetrics and gynecology. Clearly it is critically important for family practitioners and internists to be sensitive to and expert in women's health issues. Regardless of what medical professional cares for women, Bernadine Healy, the first woman director of the National Institutes of Health, has articulated a foundation that must be present in their basic education. She writes:

we must train all medical students, male and female, to understand the biological differences between the sexes, to take the time to listen to their patients, to respect their patients' concerns and anxieties, and most of all - as so many women have consistently written to me - to take them seriously.¹⁵

This basic ingredient of good patient care hardly needs specialty care. Rather, efforts to better respond to women's health care will benefit the care received by all patients regardless of gender. In addition, when women's health is appropriately addressed, all of society reaps its benefits. This recognition must guide our efforts to remedy deficiencies of the past and support progress to establish caring relationships with patients that provide well researched responses to their health care needs.

EDITORIAL COMMENT

This article will be the first in a series that will address women's health care concerns. Future Journal articles will focus upon women's health issues such as: osteoporosis, menopause, cardiovascular diseases, urinary incontinence, menstrual irregularities, contraceptive, and cancer screening.

Jerome Freeman, MD
Editor, SDJM

AUTHORS

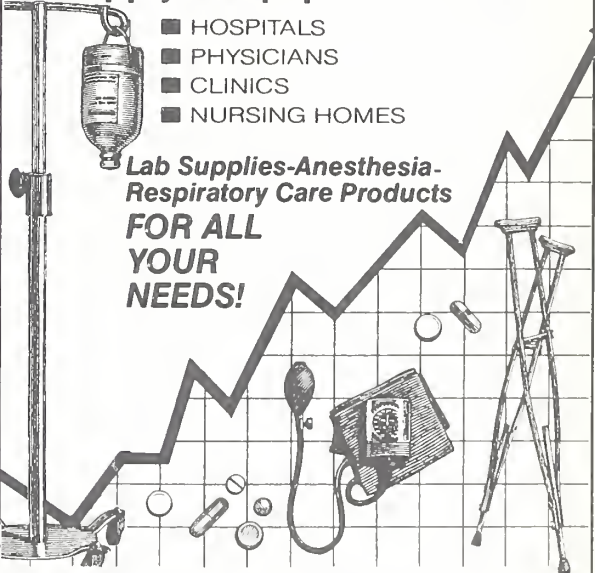
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REFERENCES


1. Kirschstein RL: Research on women's health. *Am J of Pub Hlth* 1991;81:291-293.
2. Kjellstrand CM, Logan GM: Racial, sexual and age inequalities in chronic dialysis. *Nephron* 1987;45:257-263.
3. Kjellstrand CM: Age, sex and race inequality in renal transplantation. *Arch Int Med* 1988;148:1305-1309.
4. Avanian JZ, Apstein AM: Differences in the use of procedures between women and men hospitalized for coronary heart disease. *N Eng J of Med* 1991;325:221-225.
5. Steingart RM et al: Sex differences in the management of coronary artery disease. *N Eng J of Med* 1991;325:226-230.
6. Wells CK, Feinstein AR: Detection of bias in the diagnostic pursuit of lung cancer. *Am J of Epidemiol* 1988;128:1016-1026.
7. LaRosa JH, Pinn VW: Gender bias in biomedical research. *J Am Med Women's Assoc* 1993;48:145-151.
8. AMA, Council of Ethical and Judicial Affairs: Gender disparities in clinical decision making. *JAMA* 1991;266:559-562.
9. NIH Senate Labor and Human Resources Agency Subcommittee. Statement by Bernadine Healy, MD, April 1991.
10. Boston Women's Health Collective. *Our Bodies, Ourselves*. 1973, New York: Simon Schuster.
11. Placa J: Women left out at NIH. *Science* 1990;248:1601-1602.
12. US General Accounting Office. NIH: Problems in implementing policy on women in study populations. Testimony before subcommittee of Housing and Consumer Interest and Select Committee on aging. US House of Representatives, July 14, 1990.
13. Dresser R: Wanted single, white male for medical research. *Hastings Center Report*, January-February 1992, 24-29.
14. Wallis L, Klass P: Toward improving women's health care. *J Am Med Women's Assoc*. Nov-Dec 1990:219-221.
15. Healy B: Women's health public welfare. *JAMA* 1991;266:566-568.

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Helen Owens, President, South Dakota
State Medical Association Alliance

Talk to Me

My sixth grade daughter, Elizabeth, receives more phone calls than I do. I understand from my friends with teenage daughters that this is only the beginning!! I have tried to teach Elizabeth to identify herself politely when answering the phone. Recently, however, I have noticed a change. When I call her to the phone, her first words are, "Talk to me." A smile briefly crosses my face when I hear this new expression of youthful parlance. I doubt she realizes the significance of those words. What a difference it would make in our communities, our state, our nation, and our world if people genuinely did that. Isn't communication what we really want and value in our family relationships, our partnerships, and as two intimately bound organizations?

I enjoyed talking with many of you and your spouses at the State Convention in June. I hope that the communication we have begun will continue throughout the year, and that you will feel free to "talk to me" and your district alliances.

MAKING THE PIECES FIT Goals of Helen Owens SDSMAA President 1994-1995

Promote alliance membership as the "one choice" medical spouses should make to positively impact their community, state, and nation.

Increase our efforts to educate ourselves and the public on the escalating problem of domestic violence.

Expand the cooperation between the South Dakota State Medical Association and the Alliance.

Create a greater sense of cohesiveness among the district alliances.

Enhance our support of future South Dakota physicians by continued emphasis on AMA-ERF.

Serve as an advocate for improving the quality of life for the citizens of South Dakota.

"I find the great thing in this world is not so much where we stand, as in what direction we are moving. We must sail with the wind and sometimes against—but we must sail, and not drift, nor lie at anchor."

Oliver Wendell Holmes

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Fine-Needle Aspiration (FNA) of Palpable Breast Lesions

Victoria A. Herr, MD

ABSTRACT

Fine Needle Aspiration (FNA) biopsy is a technique which is relatively inexpensive but accurate in the diagnosis of palpable breast lesions. To further improve accuracy, the triple diagnosis method combining clinical examination, mammography, and FNA has been introduced. Wide spread application of this technique will hopefully become available to more patients in South Dakota.

One of the leading health care issues today is the early diagnosis of breast cancer. In the past decade, detection of early treatable cancers has increased as a result of patient education, self-examination programs, and wider use of screening mammography.¹ However, the cost of screening has dramatically increased as more "suspicious" lesions are being biopsied. In this era of health care reform, there is increasing pressure for cost containment. This has generated interest in alternative diagnostic methods to open breast biopsy which would be less expensive but could still provide a definitive diagnosis of breast cancer. Fine-needle aspiration represents such a technique. In addition to cost effectiveness, there are other factors involved for FNA to compete with biopsy for the primary diagnosis of palpable breast lesions. To compete with open biopsy as a diagnostic test, FNA must also diagnose breast lesions with a high degree of sensitivity and specificity, as well as show lower morbidity.²

In order to adequately assess the utility of FNA, one must first understand the procedure. Basically, FNA consists of: 1) using a needle and syringe to remove material from a mass that would not normally exfoliate cells, 2) smearing it on a glass slide, 3) applying a routine stain, and 4) looking at it with a microscope. If these steps are meticulously carried out, a rapid and accurate diagnosis of a majority of mass lesions can be achieved.

In experienced hands, specific lesions of the breast that may be identified by FNA include: 1) mastitis and fat necrosis, 2) fibroadenoma, 3) lactating adenoma, 4) carcinomas of various types, 5) sarcomas and, 6) metastatic tumors. Occasionally, an atypical or suspicious

diagnosis is rendered with a recommendation for an open biopsy for definitive diagnosis.

The possible complications of breast FNA are relatively minor. They include bleeding, hematoma, and infection. In women with small breasts, it is possible to go through the chest wall and cause a small pneumothorax. These usually resolve spontaneously, and require no therapeutic intervention.

An important issue to consider is the sensitivity and specificity of FNA (i.e. false - negatives and false - positives). There are two sources of diagnostic error in FNA; one is technical and the other interpretative.³ There are six main variables involved in technical difficulties which usually yield false - negative results: proper smear preparation and staining; aspirator expertise; lesion size, [with very large (>4 cm) or very small (<1 cm) lesions being less accurate]; lesion circumscription; location; and cellular composition (tumors with low cellularity or dense fibrotic stroma are important sources of false - negative diagnoses).³

Interpretative problems usually involve a failure to recognize the wide morphologic spectrum of benign disease, most often leading to false - positive diagnoses. The lesions involved in false - positive diagnoses usually have in common increased cellularity and the presence of atypical appearing cells. Lesions most likely to lead to a false - positive diagnosis include, but are not limited to, hyperplasias, fibroadenoma, and intraductal papilloma.³ Due to the small false - negative rate for FNA, the diagnostic triplet of clinical examination, mammography, and FNA has been introduced to improve the accuracy of diagnosis of palpable breast masses. While each of these diagnostic modalities has its own fairly

significant false - negative rate, several authors have found the three methods combined to have high diagnostic sensitivity and specificity.⁴⁻⁶

In combined data, the sensitivity of the "triple diagnosis" method was found to be 98.8%.³ The false - positive rate when using the triplet diagnosis method was 0.07%. This high specificity has led some authors to conclude that when all three tests are positive for carcinoma definitive therapy can be undertaken.⁵ Others feel that a confirmatory intraoperative frozen section is desirable before mastectomy is performed.³ Patients with three negative studies would be clinically followed without open biopsy, and patients with discordant triplets would undergo open biopsy. It is estimated that this strategy could reduce the number of open biopsies by 50%.¹

Another important issue in the decision to use FNA is the cost-effectiveness compared to open biopsy. Lannin et al⁷ reported a savings of \$104 per case compared with routine outpatient biopsy, and \$393 compared with routine inpatient biopsy. Layfield et al suggest a cost savings two to three times greater than this.⁸ Using data from UCLA, they estimate that widespread substitution of FNA for open biopsy in patients with clinically and mammographically low risk lesions could result in a national health care savings of over \$180 million dollars.

An important variable related to cost effectiveness is the impact of delayed diagnosis in those patients with a false - negative FNA. Layfield et al⁸ found that a three to six month delay in diagnosis resulted in a 0.1% decrease in 10-year overall survival, which they felt was probably an overestimation of the adverse effects of delayed diagnosis. This equated to a five to eleven day decrease in survival depending on the age of the patient. However, based on this analysis, they feel a two to three month mammographic and/or clinical follow-up of all negative FNA results would greatly minimize the impact of false- negative FNA diagnoses.

In addition to its high diagnostic accuracy and cost effectiveness, FNA also has a significantly lower morbidity than open biopsy. It allows a rapid diagnosis with minimal discomfort and leaves no visible scars or deformity. There are also no post-biopsy changes on mammogram which may later mimic carcinoma. For these reasons, it represents an excellent technique to evaluate breast disease in young women with multiple nodules.¹ If a positive diagnosis is rendered, multiple treatment options can be discussed with the patient before definitive surgery, making the patient an active participant in her own care. An important aspect of FNA is giving the patient the psychological advantage of being able to mentally prepare for her definitive treatment.

SUMMARY

The "triple diagnosis" protocol of Layfield et al⁸ is recommended for the management of palpable breast lesions. Using this approach, patients with a positive

triplet are counselled on their therapeutic options and prepared for definitive therapy with a confirmatory intraoperative frozen section before mastectomy. Patients with discordant triplets are sent for open biopsy. Patients with negative triplets are followed clinically with physical exam and/or mammography in three to six months. Since the incidence of breast carcinoma is relatively higher in post-menopausal women, these patients should be followed closely. If they are unlikely to comply, then the nodule should be excised. If this approach is followed, FNA can achieve a significant cost savings, reduce patient morbidity, increase the speed of diagnosis, and increase the opportunity for preoperative patient counseling without reducing diagnostic accuracy or compromising patient prognosis.

AUTHORS

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REFERENCES

1. Layfield LJ: Can FNA replace open biopsy in the diagnosis of palpable breast lesions? *Am J Clin Path* 1992;98(2):145-147.
2. Koss LG: The palpable breast nodule: A cost-effectiveness analysis of alternate diagnostic approaches. *Cancer* 1993;72(5):1499-1502.
3. Layfield LJ, Glasgow BJ, Cramer H: Fine-needle aspiration in the management of breast masses. Rosen PP, Fechner RE, eds. *Path Annual* 1989, Part 2. Norwalk, Ct: Appleton & Lange 1989:23-62.
4. Dixon JM, Anderson J, Lamb J, et al: Fine-needle aspiration cytology, it's relationships to clinical examination and mammography in the diagnosis of a solid breast mass. *Br J Surg* 1984;71:593-598.
5. Hermansen C, Poulsen HS, Jensen J, et al: Diagnostic reliability of combined physical examination, mammography and fine-needle puncture (triple-test) in breast tumors. A prospective study. *Cancer* 1987;60:1866-1871.
6. VanBogaert LJ, Gilbert M: Reliability of the cyto-radio-clinical triplet in breast pathology diagnosis. *Acta Cytol* 1977;21:60-64.
7. Lannin DR, Silverman JF, Pories WJ, Walker C: Cost effectiveness of fine-needle biopsy of the breast. *Ann Surg* 1986;203:474-480.
8. Layfield LJ, Chrischilles EA, Cohen, MD, Bottles K: The palpable breast nodule: A cost-effectiveness analysis of alternate diagnostic approaches. *Cancer* 1993;72:1642-1651.

Anticoagulation Update

Jenny Menke, Pharm.D, Sioux Falls

It has been three years since the Stroke Prevention in Atrial Fibrillation (SPAF) trial and several other studies demonstrated a significant benefit of anticoagulation for the prevention of stroke in individuals with atrial fibrillation.^{1,5} These studies answered important questions regarding the use of oral anticoagulants. Several concerns regarding anticoagulation, however, still need to be addressed. Two questions we might ask ourselves are: is aspirin as effective as warfarin in preventing stroke in patients with atrial fibrillation? And, are patients who are receiving warfarin being monitored appropriately?

The studies evaluating anticoagulation in atrial fibrillation for the most part compared warfarin to placebo. These studies were terminated early because of the significant benefit experienced by patients receiving warfarin.^{1,2} The advantages of aspirin compared to warfarin (ease of administration, decreased risk of bleeding) would be significant if aspirin was indeed as effective as warfarin in preventing stroke. The SPAF II trial⁶ attempted to answer this question by comparing aspirin (325 mg daily) to warfarin (International Normalized Ratio maintained between 2-4.5) in the prevention of stroke in 1100 patients with atrial fibrillation. The patients were evaluated according to age and risk of thromboembolism. In younger patients (less than 75 years of age) warfarin decreased the rate of primary event (ischemic stroke or systemic embolism) by 0.7% per year compared to aspirin. The rate of primary events in these patients was 1.3% per year for patients assigned to warfarin and 1.9% per year for patients given aspirin. In older patients the decrease in rate of primary events with warfarin was 1.2% per year. The actual primary event rate per year was 3.6% for the warfarin group and 4.8% for the aspirin group. The authors also stratified the groups according to risk of thromboembolism. An earlier study by this group of investigators showed that history of hypertension, previous thromboembolism or recent heart failure increased the risk of stroke in patients with non-rheumatic atrial fibrillation. In SPAF II, younger patients without these risk factors were found to have absolute event rate of only 0.5% per year. The authors concluded that warfarin may be more effective in decreasing the rate of ischemic stroke but the absolute reduction in rate was small. In younger patients without any risk factors, aspirin is a viable option for stroke prevention. In older patients, the risk of stroke was greater regardless of which agent was given. In these patients, age, risk factors for embolism, and risk

of hemorrhage must all be weighed when determining the agent of choice.

The most significant risk of warfarin therapy is hemorrhage. Therefore, close monitoring of warfarin therapy is essential to assure the safe use of this drug. Is it enough, then, to do monthly prothrombin times? The answer to that question is both yes and no. In stable patients on warfarin, monthly monitoring of the hypoprothrombinemic effect is usually sufficient. The prothrombin time (PT), however, has fallen out of favor as the monitor of choice for warfarin. Current international guidelines recommend monitoring the International Normalized Ratio (INR) instead of the PT.⁷ The INR system was developed by the World Health Organization in the 1980's in an attempt to standardize the monitoring of warfarin therapy. The recommendation to use INRs instead of PTs was made by the International Committee for Thrombosis and Hemostasis and the International Committee for Standardization in Hematology in 1985. Nine years later the United States is still split between institutions reporting PTs and those reporting INRs. Every effort should be made to achieve a universal adoption of the INR system. This is not simply a matter of policy but an issue regarding quality care. With the INR system, a patient can be assured that his response to warfarin therapy will be evaluated in the same way no matter where he is. In other words, an INR of 2.5 means the same thing to a practitioner in South Dakota as it does to one in Washington or London. The same can not be said for any given prothrombin time. The delay in switching from monitoring prothrombin times to INRs may simply stem from a reluctance to abolish a familiar standard that has been used for many years. It is time now, however, for everyone in the United States to forgo the familiar and embrace the INR as the monitor of choice for warfarin. A more complete review of the INR system can be found in the December 1992 issue of South Dakota Journal of Medicine.

REFERENCES

1. The Stroke Prevention in Atrial Fibrillation Investigators: The stroke prevention in atrial fibrillation trial: final results. *Circulation* 1991;04:527-539.
2. Petersen P, Boysen G, Godtfredsen J, et al: Placebo-controlled randomised trial of warfarin and aspirin for prevention of thromboembolic complications in chronic atrial fibrillation: The Copenhagen AFASAK study. *Lancet* 1989;1:175-179.

3. The Boston Area Anticoagulation Trial for Atrial Fibrillation Investigators: The effect of low-dose warfarin on the risk of stroke in patients with nonrheumatic atrial fibrillation. *N Engl J Med* 1990; 323:1505-1511.
4. Connolly SJ, Laupacis A, Gent M, et al: Canadian Atrial Fibrillation Anticoagulation (CAFA) Study. *J Am Coll Cardiol* 1991; 349-355.
5. Ezekowitz MO, Bridgers SL, James KE, et al: Interim analysis of VA co-operative study, Stroke Prevention in Nonrheumatic Atrial Fibrillation (SPINAF). *Am Heart Assoc Abstracts*, Nov. 11-14, 1991.
6. Stroke Prevention in Atrial Fibrillation Investigators: Warfarin versus aspirin for prevention of thromboembolism in atrial fibrillation: Stroke prevention in atrial fibrillation II study. *Lancet* 1994; 343:687-691
7. Laupacis A, Albers G, Dunn M, et al. Antithrombotic therapy in atrial fibrillation. *Chest* 1992; 102 (suppl):4265-4335.



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Extenuating Circumstances

Four Decades of Service to Babies, Children and Youth: In Honor of Willis F. Stanage, MD

Ann L. Wilson, Ph.D, Professor, Departments of Pediatrics and Psychiatry, USD School of Medicine, Sioux Falls, SD.

The following are excerpts of remarks Dr Wilson made at a USD dinner honoring Dr Stanage on April 21, 1994.

Dinners that are held in honor of those for whom we have great respect offer an opportunity for each of us to consider our lives and the direction of the winds that guide our sails. I was most pleased to be asked to speak tonight as we honor Dr Stanage who has for so many years provided a thoughtful and wise voice for medical education, pediatric care, and citizenship for the state of South Dakota.

Gathering information for this talk was easy. Those with whom Dr Stanage has worked, and especially the parents of the children for whom he has cared, have warm thoughts regarding all that he has meant to them. He is indeed a man who has provided leadership in many ways for many people and a man whose kind care has been felt by so many students, parents, and children. He is also a man whose life and that of his family is deeply woven into the history of South Dakota and the pioneering spirit that represents the character of the prairie.

Eighteen years ago during this spring time of year, I was in South Dakota interviewing for a position with the medical school. At that time, Dr Thomas Aceto had recently become the chairman of pediatrics, a position Dr Stanage had held for a very long time prior to USD becoming a four year degree granting medical school. Dr Aceto was a bow-tie pediatrician and he was probably one of the most money mindful of all state employees. Dr Aceto's thriftiness became very clear to me on my first visit here, but he also had a way of making sure that everything was done just the way he felt it should be accomplished.

On my second visit to the state, Dr Aceto had me drive to Vermillion two times and on my return from the second of these trips on I-29 he announced that he decided that I must now go to Yankton. He walked me back to the rental car, gave me a map, and told me to drive south to meet with Dr Stanage. As I recall, by the end of this visit, the bill for the rental car was more than my round trip airline ticket from Ann Arbor. Nonetheless, it was clear to me that Dr Stanage represented an important source of approval, so off I drove to Yankton.

I remember well that first time of meeting Dr Stanage. He had a very busy waiting room full of parents and their children and I recall going into his office where I immediately recognized a very patient and kind pediatrician. While I realized that this was a special man, I also recall being very impressed by his typical pediatrician bow-tie—but I must tell you— it



Willis F. Stanage, MD

was his accompanying cowboy boots that caught my eye. To me this was a most interesting mix of the Western World with the traditional bow-tie world of the pediatrician.

In exploring history, the Stanage family roots do indeed go very far back to the 1850's and the pre-territorial pioneering days of the West. Dr Stanage is the great grandson of John and Bridgett Stanage,

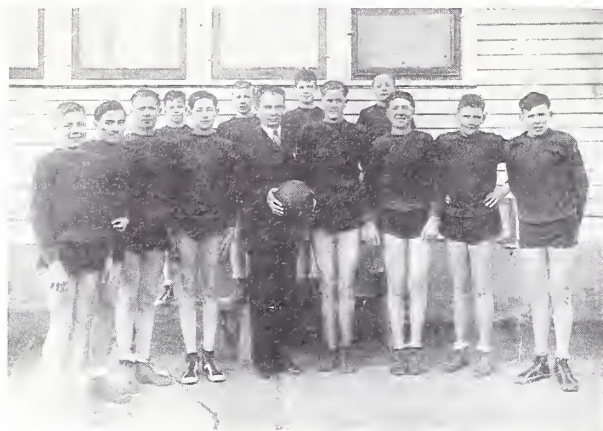
both immigrants of Ireland, who came to the Fort Pierre area with John's Army company that was dispatched to this area following the Mexican War. Bridgett was the first white woman in this Western Territory. Following discharge from the Army, John worked driving ox teams and the couple became parents of John Junior, the first white child born in the Dakota territory. Several years later the family drove a six mule team to Fort Randall and then went down the Missouri River in a steamboat to Sioux City. From there they were outfitted with two yoke of oxen, two wagons, some cows, and a breaking plow. They then came up the James River to Mission Hill. In 1861 Congress created the Dakota Territory with its capitol in Yankton and Dr Stanage's great grandfather John was elected to the territorial House of Representatives representing the Yankton area.

Not far from where John and Bridgett originally settled in Mission Hill, Willis Stanage was reared. Here he is as a young boy already interested in fishing with his dog.

During Dr Stanage's growing up years, Mission Hill had a school that reached the 11th grade and it had a basketball team that probably included every kid in the area regardless of his age. Usually pictures of basketball teams are posed with the tall boys in the back



row. You will notice in this photo that the tall boys are in the front row and the short ones are in the back row standing on a bench! Guess who is in the front row, second from the right?



During the difficult years of the 1930's, students in Mission Hill, who aspired to a high school graduation, had to receive special permission and funding to attend the 12th grade in Yankton. There is a family story of young Willis walking to visit the home of the Superintendent of the local school district seeking such special permission. When he arrived, he discovered that the Superintendent was not home but his wife was there and she did not hesitate to share her opinion about this teenager's request. She sharply rebuffed his interest in pursuing his education and told him that her husband had only gone as far as the 6th grade and he had become president of the Yankton County Farmer's Union. Why couldn't Willis do the same without spending the taxpayers' money? Persistence prevailed and Mission Hill's investment has reaped many, many times over the community's support for this boy's schooling.



Following high school, Dr Stanage enrolled in Yankton College where he became deeply involved in the study of

theater. We see him here having his make up applied prior to his playing the part of Abraham Lincoln. His college education was interrupted by World War II. He spent time in Brookings for Army Air Corps training prior to being sent to Texas for training in the glider service. Soon after the completion of this training, the military recognized that use of gliders was too dangerous and discontinued their use for warfare. Willis joined the 8th Air Force of the Army and spent the war in England and in France coding weather reports for intelligence.

Dr Stanage returned to Yankton College after the war, graduated in 1947 and faced a decision that cer-

tainly took his life on a route that brings this group together this evening. He had the opportunity following college to join a prestigious summer stock theater in the Catskills but instead went to Vermillion where he began medical school. He graduated from the two year school and then went onto the University of Nebraska completing medical school in 1952. Following a year as an intern at Sacred Heart Hospital, he completed his pediatric residency in Children's Hospital in Omaha. It was during these days that polio created terror in the hearts of parents and Dr Stanage recalls caring for corridors of children in iron lungs trying to save their lives from this horrid disease.

Dr Stanage returned to Yankton in 1954 with his family that now included three young children - Ann, Dave, and Tom. Dr Isburg describes how Dr Ranney, who was the practicing obstetrician for the area at that time, not only delivered babies but then went on caring for them following birth. Dr Stanage was fearful that Dr Ranney would be reluctant to let him care for these young patients, but found this not to be the case. He rapidly established a very busy practice though, at first, he had the obstacles of youth to overcome. One evening Dr MacVay sent him out on a home visit, where he met a worried father at the door of his home. In distress, the father turned to his wife and said, "They sent a boy to do a man's job." Somehow the young Dr Stanage managed the child well and showed that his competence out shone his youth.

During the twenty years before his neighbor child, Carrol Isburg, graduated from medical school and completed his pediatric residency, Dr Stanage was the only pediatrician for many, many miles and led a very full and busy professional life. He has a long association with Sacred Heart Hospital and has served as its Chief of Staff. Sister Blanche, the well known Sacred Heart nursery nurse, tells of his days of treating polio in Yankton and providing the physical therapy for the children who were the victims of this terrifying disease. She describes their doing many an exchange transfusion and wonderful years of having the good fortune of working with such a fine doctor. She notes that Dr Stanage's efforts always went beyond the hospital and his clinic and how he was eager to be of service to the community. Dr Stanage established the throat culture program for the Yankton Public School system and served from the beginning on the University team that cared for children with cleft lips and palates. From his years of treating polio he has remained involved in caring for children with disabilities. He has long served children of the American Indian communities.

Dr Stanage's children describe knowing of their father's quiet dedication to his career that often included making home calls following the family's evening meal and his reassuring response to the constant barrage of telephone calls that were an ever present part of their family's home. Indeed, Dr Stanage believes he has been in at least a quarter of the homes in Yankton visiting sick children.

1994 marks Dr Stanage's 40th year on the faculty of the University of South Dakota School of Medicine.

He was the first chairperson of the Department of Pediatrics and then again became chairperson of the department in 1984 when I had the personal good fortune of benefiting from his guidance. During the early 1980's, Dr Stanage served as Co-Medical Director for the State Health Department in Pierre with Dr John Gregg. During these years interesting editorials appeared in this journal that Dr Stanage authored with Dr John Gregg and the Secretary for Health. These include articles on fetal alcohol syndrome, warnings regarding the potential dangers of cordless telephones, nitrous oxide, the importance of child vehicle safety restraints, and the need for accurate birth certificate data.

Over the years Dr Stanage has been recognized in many ways for his community service. He received the Alumnus of the Year Award from Yankton College, the Community Service Award from the South Dakota Medical Association, the Pioneer Award from the South Dakota Perinatal Association, the Service to Mankind Award from the Sertoma Club, and most recently he has been named the Yankton Citizen of the Year.

Though so far this talk has commented upon his contribution to child health, equally important are his interests that perhaps have been what has given this remarkable man the balance in life that we all know makes us more productive. Since his college days, Dr Stanage has been involved in drama, not just has he acted in over 100 plays, he has also spent enormous amounts of time and energy designing and building sets and participating in all the activities that keep a playhouse going. He is famous for creating, for one play, a steam shovel that actually operated.

His other major interest is in history and he has been a loyal and active lay historian contributing to the Yankton and State Historical Societies in many ways. Perhaps, however, most interesting, as I dug around in the archives of his life, is his intense interest in fixing things.

It seems that from having endured the difficult times of the 1930's, Dr Stanage has developed a deep respect for the art of repairing broken objects. His children tell me he would rather have a new cement mixer than a vacation...that he can readily spend money fixing something that could be replaced for less. The challenge of fixing and the conservation spirit prevail for him.

With his penchant for fixing things, Dr Stanage also experiences a keen reluctance to waste anything or to throw things away. He owns the oldest Jeep in Yankton and one can wonder about what happens when six generations of Stanages have resided in the same area of South Dakota for many, many years. I have learned that Dr Stanage has responded to this challenge by collecting and building garages—yes, garages. He owns not one, not two, not three, but four garages in Yankton and who knows, he may be contemplating building another. Remember, Dr Talley says we may not store anything in the basement of the new medical school building!

They also tell me that from his youth in the Depression years he has maintained a serious respect for and commitment to meticulous gardening. Not too long ago he became over-wrought at the sight of apples spoiling on the trees in his small orchard and rounded up all the able bodied Stanages in South Eastern South Dakota and had a fall day of apple picking. The family found an old apple press and were under the impression that he wanted them to make cider. After pressing bushels of apples, the Stanage crew looked to their senior leader for guidance on what to do next with all the juice they made. They soon found out that he didn't have the foggiest idea of how to make cider. Apparently there are still plenty of bottles of vinegar to be had around the various Stanage households if anyone finds a need for some.

Many of those with whom I have talked reveal serious stories about how Dr Stanage makes decisions in terms of what is best for his family and community. Over the years he has made selfless, unpopular decisions that have been motivated by a view for the future. He is truly a genuine man of integrity and a man one truly trusts. His humility pervades with a sense of presence that gives so much to all that he does.

As I was reading through some of his journal articles, I came upon one that he wrote with Dr Ranney on the use of local, as opposed to general anaesthesia, for c/sections. The article was a wonderful review of over 5,000 of their deliveries in Yankton and in it there is a hint of considerable skepticism among the medical community about this new practice. In words that I feel must have reflected Dr Stanage's strong sentiment, the authors write that as the "brightness" of new babies born without the drugging effects of general anaesthesia is observed, one is easily convinced of the importance of this new practice.

Dr Stanage has a bright twinkle in his eye as he speaks of the babies for whom he has cared and of the students whom he has taught. These students include many current faculty members and several Deans of the School of Medicine. We are fortunate to have someone who finds such delight in service and energy to give to us all.

I recall Dr Stanage telling me of his special enjoyment of working in Pierre with Dr Gregg in the State Department of Health. Dr Gregg tells me that he recalls well their offices that had windows to the East. He says that they both would take time off in the morning to sit by those windows to watch the geese as they would fly into their resting place by the Capitol.

Dr Stanage, as you move onto your next involvements in life, we honor your love for the state, your dedication to students, children, and families, your fondness for projects, and your interests that give so much to others. As the seasons change, the geese from above will keep a watchful eye on all of our lives as they continue to evolve in creative and colorful ways.

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 Credit Available Unless Otherwise Specified)

CME CONFERENCES

JULY 1994

- July 1 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- July 6 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: William C. Duckworth, MD, Topic: Combination Therapy & the Treatment of Type II Diabetes, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- July 7 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 7 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 7 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 7 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- July 11 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- July 11 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- July 12 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- July 13 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- July 13 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Nicholas Vogelzang MD, Topic: The Treatment of Metastatic Renal Carcinoma, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- July 13 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- July 13 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- July 14 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 14 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- July 14 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 14 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 15 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Topic: Renal Effects of the Calcium Antagonists, Info: Med Staff Office - 341-8107.
- July 15 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- July 20 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: Clinical Pathology Conference, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- July 20 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, Topic: Minimalistic Thinking in Vascular Occlusive Disease, Info: David Rossing, MD, 331-3490.
- July 21 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 21 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 21 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 21 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- July 22 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- July 25 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- July 27 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- July 27 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- July 27 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Stanley Franklin, MD, Topic: Paradigm Shifts in Hypertension: the Vascular Load Concept, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- July 28 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- July 28 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- July 28 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- July 28 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- July 29 **Physicians Continuing Education**, 7:30 am, West Auditorium, Rapid City Regional Hospital, Topic: Pediatric Trauma, Info: Norma Wise, 339-8568.

AUGUST 1994

- August 2 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- August 3 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Lawrence Newman, MD, Topic: Current Diagnosis & Treatment of Headaches, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 4 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 4 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 4 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 4 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- August 5 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- August 8 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- August 9 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- August 10 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Ralph Lazzara, MD, Topic: At the Crossroads: New Directions in the Treatment of Ventricular Arrhythmics, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 10 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- August 10 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- August 11 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 11 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 11 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- August 11 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

MISCELLANEOUS MEETINGS

AUGUST

- August 5-7 **Civil War Medicine, 2nd Annual Conference**, Hood College, Frederick, MD. Fee: \$175. Contact: Thomas P. Sweeney, MD, National Museum of Civil War Medicine, PO Box 470, Frederick, Md 21705-0470.
- August 22-23 **Advanced Cardiac Life Support (ACLS) - Provider**, Univ of Neb Med Ctr Campus, Omaha, Neb. Fee: \$195. 14.5 hrs AAFP & AMA Category 1 credit. Contact: Cindy Hanssen, Univ of Neb Med Ctr, Ctr for Cont Educ, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1-800-652-1095.
- August 31 **New Management Options in Bipolar Disorder**, St. Joseph Center for Mental Health, Omaha, Neb. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Suite #2130, Omaha, NE 68131. Phone: 1-800-548-2633.

SEPTEMBER

- September 17 **Seventh Annual Internal Medicine Update**, Univ of Neb Student Union, Lincoln, Neb. Fee: \$45. Contact: Ctr for Cont Educ, Univ of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1-800-652-1095.
- September 9-10 **Advanced Trauma Life Support (ATLS)**, Good Samaritan Hosp, Kearney, NE. Fee: \$550. 17 hrs AMA Category 1 & 16 hrs AAFP credit. Contact: Cindy Hanssen, Univ of Neb Med Ctr, Ctr Cont Educ, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1-800-652-1095.
- September 12-14 **The Norwegian-American Orthopaedic Society**, Rochester, Minn. CME credit avail. Contact: Barb Stussy, Meeting Planner Assist, Postgraduate Courses, Section of International Med Educ, Mayo Foundation, Rochester, MN 55905. Phone: 1-800-323-2688.
- September 17 **Parkinson's Disease**, Washington Univ Med Ctr, St. Louis, Mo. CME credit avail. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: 1-800-325-9862.
- September 22-23 **Domestic Violence**, St. Paul-Ramsey Med Ctr, St. Paul, Minn. 7 hrs AMA Category 1 credit. Contact: CME Ramsey, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- September 29 **Ultrasonography**, Marriott Hotel, Omaha, Neb. CME credit avail. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Suite #2130, Omaha, NE 68131. Phone: 1-800-548-2633.

OCTOBER

- October 16 **Problem Solving in Hypertension**, Mayo Foundation, Rochester, Minn. CME credit avail. Contact: Rita Kunz, Sec, Postgraduate Course, Section of CME, Mayo Foundation, Rochester, MN 55905. Phone: 1-800-323-2688.
- October 19-21 **Contemporary Cardiothoracic Surgery**, The Ritz-Carlton Hotel, St. Louis, Mo. Fee: \$700 (combined course) \$450 each. 21.5 hrs AMA Category 1 credit (combined course). Contact: Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: 1-800-325-9862.
- October 23-27 **Advances in Diagnostic Radiology**, The Cloister, Sea Island, Ga. 22.5 hrs AMA Category 1 credit. Fee: \$595. Contact: Rita Kunz, Sec, Postgraduate Courses, Section of CME, Mayo Foundation, Rochester, MN 55905. Phone: 1-800-323-2688.



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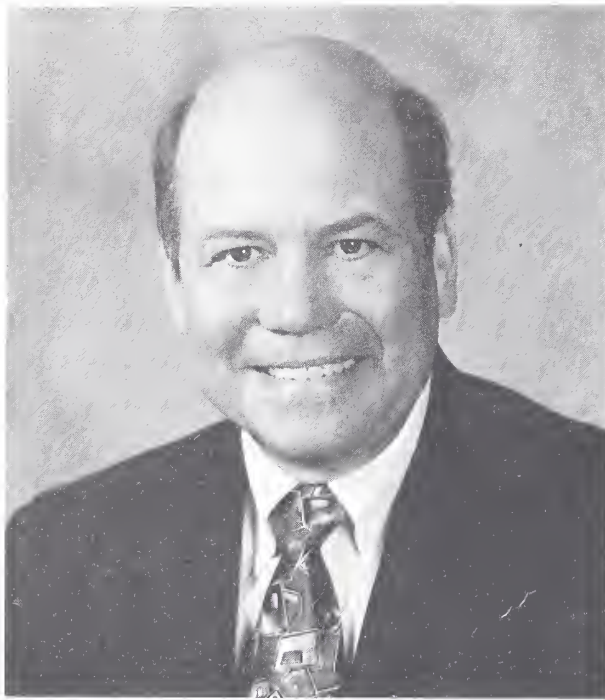
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**James R. Reynolds, MD, President
South Dakota State Medical Association**

As I write this President's Page, Health System Reform marches along. Over the past two years, little else has occupied the minds of most physicians and health care providers. With the Congressional Committees now having completed their work, the House and Senate are poised to begin debate. What will be present at the end of the tunnel of Health System Reform at the national level remains unknown.

What is known, however, is that health care reform continues to march along state by state, county by county and city by city. It is affecting all health care providers at every level. In South Dakota, we are just beginning to see the impact of managed care and its consequences to our medical practices. For many in South Dakota, there is a sense of denial, that the changes we see occurring elsewhere in the country will never impact our small rural state in which most providers are the sole providers for their patients.

At the South Dakota State Medical Association meeting in Rapid City, the House of Delegates struggled with the concept of provider limitations on managed care networks. The discussion centered heavily on provider limitation in the Dakota Health Plans Network. This issue of choice is new, since up until now, South Dakota physicians and patients have enjoyed an open playing field as it relates to their choice of physicians and hospitals. The final resolutions passed by the South Dakota House of Delegates clearly

took a pro-choice stand with their adoption of resolutions to expand the hospital coverage of Dakota Health Plans, an insurance product of DakotaCare, to include all hospital providers. In addition, the House supported a resolution to study and support an Any Willing Provider Bill to the upcoming legislature.

At the national AMA meeting in Chicago, my awareness of the problems of managed care was further heightened. Example after example of "mismanaged managed care" was elaborated. Too many managed care companies now have their own "hired gun physicians" or other non-medical CEO's making medical decisions based on the bottom line of the managed care company rather than on the patients' bottom line, namely appropriate patient care.

On May 23, the AMA unveiled the Patient Protection Act legislation. This has been introduced in the House, and more recently into the Senate, by Senator Paul Welstone (D-Minn) and Senator Conrad Burns (R-Mont). This legislation would ensure that patients and their physicians, not insurance companies, control the care that patients receive. Second, it would ensure that patients would have their choice of physician and healthcare plan. Third, it would give patients information about their plan coverage, co-payments and prior approval requirements. Fourth, no physician would be kicked out of a plan for **GIVING PATIENTS THE CARE THAT THEY NEED**. And finally, patients who opt out of a managed care program may purchase a point of service option that would be non-punitive on a cost basis. Of note is the immediate attack by the insurance companies that this bill received, particularly from the five big insurance companies who now control a large percentage of the patients in this country and who do not want to relinquish control of medical care decisions to their enrollees. It is clear that the Patient Protection Act aims to put no one's interest ahead of the interests of our patients and the care they receive. It will guarantee the patients and their physicians, not insurance companies, will make these decisions.

And so as the debate on Health System Reform continues, I am encouraged by the trend physicians both locally and nationally are taking, namely to refocus on the important issues of patients and the delivery of quality medical care.

A handwritten signature in cursive script that reads "James R. Reynolds". The ink is dark and the signature is fluid, with a large, stylized "R" at the end.

PS: The House Ways and Means Committee recently approved a measure to not only accept key aspects of the Patient Protection Act, but also endorsed a federal "Any Willing Provider" provision. Clearly by going beyond the Patient Protection Act, Congress is also seeing problems created by overzealous managed care companies, which have denied medically necessary care.

Transactions Of The

South Dakota State Medical Association

113th Annual Meeting

June 9-11, 1994

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John Sall, MD (1996) Sioux Falls

(1997)

Eighth District (Yankton)

Julie Stevens, MD(1995) Vermillion
Jem Hof, MD (1997) Yankton

Ninth District (Black Hills)

Dave Johnson, MD (1997) Rapid City
Craig Hansen, MD (1995) Rapid City
Robert Goodhope, MD (1995) Sturgis
(1997)

John Barlow, MD (1996) Rapid City

Tenth District (Rosebud)

R. G. Nemer, MD (1997) Gregory
Edwin Sweet, MD (1996) Burke

Eleventh District (Northwest)

(1997)

(1996)

Twelfth District (Whetstone Valley)

(1997)

Joseph Kass, MD (1996) Rosholt

1994-1995 COMMISSIONS

COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

John Barlow, MD (1997) Rapid City, Chairman
Gary Bruning, DO (1996) Flandreau
(1996)
Catherine Gerrish, MD (1996) Watertown
Mark Perpich, MD (1996) Watertown
John Sall, MD (1997) Sioux Falls
Laura Larsen, MD (1997) Sioux Falls
James Wiggs, MD (1997) Yankton
Craig Uthe, MD (1996) Sioux Falls
Rodney Vizcarra, MD (1997) Pierre
O. Myron Jerde, MD (1995) Rapid City
Vance Thompson, MD (1995) Sioux Falls
J. Michael McMillin, MD (1995) Sioux Falls
Steven Feeney, MD (1995) Watertown
Thomas Olson, MD (1995) Vermillion
Ruth Parry, Alliance
Chuck Rose, Clinic Manager

COMMISSION ON INTERNAL AFFAIRS, COMMUNICATIONS AND LIAISON

Martin Christensen, MD (1996) Mitchell, Chairman
Ken Peterson, MD (1997) Watertown
John Jones, MD (1996) Chamberlain
Brent Lindbloom, DO (1996) Pierre
Victoria Gerhart, MD (1995) Dakota Dunes
Herb Saloum, MD (1996) Tyndall
Anthony Salem, MD (1997) Sioux Falls
Glenn Ridder, MD (1997) Sioux Falls
William Wengs, MD (1997) Sioux Falls
Julie Stevens, MD (1997) Vermillion
John Griffin, MD (1995) Sioux Falls
John Davis, MD (1995) Sioux Falls
Milton Mutch, MD (1995) Sioux Falls
Paul Bormes, MD (1996) Rapid City
Brian Tjarks, MD (1995) Mitchell

COMMISSION ON MEDICAL SERVICE

Cynthia Weaver, MD (1996) Rapid City, Chairman
Mark Mabee, MD (1997) Yankton
Thomas Hermann, Jr, MD (1996) Sturgis
Bernard Linn, MD (1996) Pierre
Henry Travers, MD (1996) Sioux Falls
David Jenny, MD (1996) Yankton
Douglas Holum, MD (1997) Mitchell
Faith Sarfarazi, MD (1997) Brookings
Jeffrey Hanson, MD (1997) Huron
Ed Gerrish, MD (1997) Watertown
Timothy O'Shea, MD (1995) Sioux Falls
Tad Jacobs, DO (1995) Flandreau
Robert Suurmeyer, MD (1995) Aberdeen
Paul Amundson, MD (1995) Sioux Falls
R. Maclean Smith, MD (1995) Sioux Falls

COMMISSION ON SCIENTIFIC MEDICINE

Angelina Trujillo, MD (1995) Sioux Falls, Chairman
John Ryan, MD (1997) Sioux Falls
Roger Carter, MD (1996) Watertown
Donald Knudson, MD (1996) Sioux Falls
Kevin Vaska, MD (1996) Sioux Falls
Brian Tschida, MD (1996) Rapid City
James Ryan, MD (1997) Sioux Falls
Donald Habbe, MD (1997) Rapid City
Kelly Krizan, MD (1997) Pierre
Kevin Whittle, MD (1997) Sioux Falls
Michael Keppen, MD (1995) Sioux Falls
Michael Brown, MD (1995) Spearfish
Jose Teixeira, MD (1995) Rapid City
William Baugh, MD (1995) Watertown
Thomas Luzier, MD (1996) Aberdeen

COMMISSION ON PROFESSIONAL LIABILITY

Douglas Traub, MD (1997) Rapid City, Chairman
(1995)
Calvin Roseth, MD (1996) Watertown
Stephen Dick, MD (1996) Rapid City
William Sorrels, DO (1996) Mitchell
John Robbins, MD (1995) Sioux Falls
Robert VanDemark, Jr, MD (1995) Sioux Falls
Mark Mahnke, MD (1997) Sioux Falls
Billy Fields, MD (1997) Sturgis

COMMISSION ON CONTINUING MEDICAL EDUCATION

Robert Raszkowski, MD (1995) Sioux Falls, Chairman
James Gaede, MD (1995) Mitchell
James Larson, MD (1996) Watertown
Thomas Luzier, MD (1996) Aberdeen
Henry Travers, MD (1995) Director of CME,
McKenna Hosp.
P. Kenneth Aspaas, MD (1995) Director of Medical
Education, Sioux Valley Hosp.
James Engelbrecht, MD (1995) Director of Medical
Education, Rapid City Regional Hosp.
Richard Holm, MD (1995) Director of Medical
Education, Brookings Hosp.
David Rossing, MD (1995) Director of Medical
Education, Central Plains Clinic

Willis F. Stanage, MD (1995) Director of Medical Education, Yankton CME Consortium
Michael Davies, MD(1995) Director of Medical Education, Fort Meade Veterans Administration

CREDENTIALS COMMISSION AND EXECUTIVE COMMISSION

James Reynolds, MD, Sioux Falls
Mary Carpenter, MD, Winner
James Engelbrecht, MD Rapid City
Rodney Parry, MD, Sioux Falls
Michael Pekas, MD, Sioux Falls
Thomas Krafka, MD, Rapid City
Richard Holm, MD, Brookings
Stephan Schroeder, MD, Miller

GRIEVANCE COMMISSION

Michael Pekas, MD (1995) Sioux Falls, Chairman
J. A. Eckrich, Jr, MD (1996) Aberdeen
Richard I. Porter, MD (1997) Yankton
M. George Thompson, DO (1998) Watertown
Thomas L. Krafka, MD (1999) Rapid City

ARCHIVES AND HISTORY COMMISSION

John Hoskins, MD (1995) Sioux Falls, Chairman
Virginia Tracy (1995) Alliance
Nathaniel Whitney, MD (1995) Rapid City
Brooks Ranney, MD (1995) Yankton
Patrick McGreevy, MD (1995) Sioux Falls

MEDICAL-LEGAL COMMITTEE

Jerry Walton, MD (1995) Sioux Falls, Chairman
Daniel Kennelly, MD (1995) Sioux Falls
Walter Carlson, MD (1995) Sioux Falls
Herb Saloum, MD (1995) Tyndall
David Sandvik, MD (1995) Rapid City
David Hoversten, MD (1995) Sioux Falls

DEPARTMENT OF SOCIAL SERVICES MEDICAL ADVISORY COMMITTEE

James Engelbrecht, MD (1996) Rapid City

FETAL ALCOHOL SYNDROME ADVISORY COMMISSION, SD HEALTH DEPARTMENT

Michael Crandell, MD (1995) Kennebec

ADVISORY COMMITTEE SD DRUG INFORMATION CENTER

Richard Holm, MD (1995) Brookings

MINUTES

BUDGET AND AUDIT COMMITTEE

5:45 pm Room D, Rushmore Plaza Holiday Inn
Wednesday, June 8, 1994 Rapid City, South Dakota

The meeting was called to order by Thomas Krafka, MD, President, inasmuch as the Budget and Audit Chairman, Dr.

Ken Peterson, was unable to attend. Those present included Drs. Krafka, James Reynolds, Mary Carpenter, Rod Parry, Robert Ferrell, Michael Pekas, James Engelbrecht, Stephan Schroeder, M. George Thompson, and staff, Bob Johnson and Jan Anderson.

The minutes of the previous meeting were reviewed and approved. The CPA audit, prepared by McGladrey and Pullen for the last fiscal year, was distributed and reviewed by Mr. Johnson. Following brief discussion, the committee approved the CPA audit as submitted.

There being no further business, the meeting adjourned at 6:00 pm.

MINUTES FIRST COUNCIL MEETING

3:00 pm Room D, Rushmore Plaza Holiday Inn
Wednesday, June 8, 1994 Rapid City, South Dakota

The meeting was called to order by James Engelbrecht, MD, Chairman. Those present for roll call were: Drs Thomas Krafka, James Reynolds, Mary Carpenter, Rodney Parry, Robert L. Ferrell, Michael Pekas, James Engelbrecht, Stephan Schroeder, M. George Thompson, Scott Eccarius, Julie Stevens, Charles Hart, John Barlow, Paul Eckrich, James Larson, Stephen Gehring, Richard Wake, Richard Holm, Phillip Hoffsten, Thomas Huber, Howard Saylor, Walter Baas, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Walter Carlson, Guy Tam, C. Roger Stoltz, Robert Raszowski, Larry Meyer, Carol Zielike, Stephen Haas, Richard Renka, Richard Kafka, Gregg Tobin, Alan Bloom, SDSMA staff: Robert Johnson, Jan Anderson, Dean Krogman, Donna Sievers and guests, Dr Donald Schroeder and Dave Christensen.

The minutes of the previous meeting were approved as printed and distributed.

Dr. Krafka introduced Don Schroeder, Immediate Past President of the Oregon Medical Society.

Dr. Paul Eckrich, who will be serving as a newly appointed Councilor for the Aberdeen District was also introduced to the Council.

SEATING OF NEW COUNCILORS - A motion was made to seat Dr. Scott Eccarius as Alternate Councilor from District 9. The motion was seconded and carried.

COMMISSION/COMMITTEE REPORTS:

REPORT OF THE AD HOC COMMITTEE ON RELATIONS WITH ALLIED HEALTH PROFESSIONALS - Dr. Reynolds reported to the Council that the Ad Hoc Committee on Relations with Allied Health Professionals met on Thursday, May 26. As Dr. Reynolds indicated further information needed to be gathered, he asked that this matter be deferred to the September meeting.

OLD BUSINESS:

REPORT FROM COUNCILORS REGARDING DISTRICTS' RECOMMENDATIONS FOR RE-ESTABLISHING UTILIZATION AND REVIEW COMMITTEE - Bob Johnson reported to the Council regarding FTC Endorsement of Medical Society Peer review which will be

discussed at the AMA meeting in June. Mr. Johnson indicated he would gather further information from the meeting in Chicago and asked that this matter be deferred to the September Council meeting.

PROPOSED STRATEGY FOR DEVELOPING TORT REFORM LEGISLATION - In order to plan accordingly and to be more effective, Bob Johnson stressed early preparation and strategy development regarding 1995 tort reform legislation. The Commission on Legislation has indicated it will meet earlier to prepare for next year's tort reform legislation. This was accepted for information.

REPORT ON ANTITRUST ISSUES - The Council discussed antitrust legislation which will be submitted by the AMA. As this is a very important issue to the AMA, the Council noted it is being dealt with on the federal level. This was accepted for information.

UPDATE ON MEDICAID PILOT PROGRAM IN WATERTOWN - Dr. Larson reported last quarterly results of the Watertown Medicaid pilot program. The most significant change was in the use of the emergency room, indicating the downward trend seemed to be due to the fact that patients are regularly seeing their primary care physician rather than going directly to the ER. Inpatient hospital numbers have remained about the same and also there has been a decrease in drug prescriptions. He speculated this decrease may be due to the changes physicians have made in their prescribing habits. More data is needed over a longer period of time along with additional research to explain the changes noted.

Dave Christensen from the Department of Social Services provided information on the Medicaid project statewide. He stated that in May the program was initiated in Brookings and Huron along with several rural areas in four counties. In June they are beginning their contacts in Sioux Falls. Currently there are approximately 60,000 people on Medicaid and when this program is fully implemented statewide, he expects about 48,000 Medicaid enrollees. This was accepted for information.

Dr. Huber and Dr. Hoffsten discussed the government employee program being implemented in Pierre. Under this program the doctors will share a maximum risk of up to 10 percent. Dr. Ferrell stated he received information that the program would include a very limited number of specialists. This was received for information.

The Council received information from the AMA legal counsel stating they would defend any physician facing criminal charges for prescribing birth control to a minor under the Title X program as they feel the federal regulations take precedence over state law. The Council directed that this information be provided to the membership in a future Grab Bag.

Mr. Johnson reported on the Association's legal counsel opinion regarding licensure requirements for physicians treating patients in other states via telemedicine. Dr. Saylor moved that this matter be referred to the Commission on Legislation and Governmental Relations for consideration of a change in South Dakota law which would exempt from licensure requirements those who practice via telemedicine. The motion was seconded and carried.

The Council had no nominees for consideration by the AMA for the AMA's CME Advisory Committee or the Residency Review Committee for Anesthesiology.

Dr. Parry moved the Council authorize Robert D. Johnson and Janet J. Anderson to sign for the Association's Visa-Mastercard account at First National Bank. The motion was seconded and carried.

Dr. Stoltz moved that the following physicians be reappointed to the Board of Directors of the South Dakota Medical School Endowment Association for a one year term: Doctors T. H. Sattler, Robert Giebink, Bruce Allen, Joseph Hamm, Warren Jones, Howard Saylor and Bruce Lushbough. The motion was seconded and carried.

Dr. Saylor moved that the following be reappointed to the SoDaPAC Board of Directors for terms as indicated:

James Hovland, MD	3 years
Carmen Chavier	3 years
Thomas Huber, MD	3 years
Peggy Huber	3 years
James Reynolds, MD	3 years
C. Roger Stoltz, MD	3 years
Robert Raszkowski, MD	3 years
K. Gene Koob, MD	3 years
Karen Pekas	3 years
James Engelbrecht, MD	3 years
Tom Graslie	3 years
R. G. Nemer, MD	3 years

The motion was seconded and carried.

Requests for honorary life membership were deferred until the September Council meeting pending action by the district medical societies.

Dr. Saylor moved that the State Medical Association recommend to Governor Miller that G. Robert Bartron, MD be reappointed to the South Dakota State Board of Medical and Osteopathic Examiners. The motion was seconded by Dr. Gehring and carried.

Dr. Ferrell presented an update on DakotaCare for the Council's information. Dr. Carlson presented a signed petition from a number of South Dakota physicians along with background information concerning Dakota Health Plans, Inc. for the Council's consideration. There was a lengthy discussion on this issue, and Dr. Reynold's suggested that the Association consider sponsoring "any willing provider" legislation in the 1995 legislative session to alleviate the current situation and any future exclusive managed care plans. Dr. Haas moved that the Council prepare a resolution supporting "any willing provider" legislation for the 1995 legislative session. The motion was seconded and carried. (The attached resolution was prepared and submitted to the House of Delegates.)

RESOLUTION #2

TO: House of Delegates
South Dakota State Medical Association

FROM: Council
South Dakota State Medical Association

SUBJECT: Any Willing Provider Legislation

WHEREAS, many competitive health care plans exclude participation of providers, and

WHEREAS, the South Dakota State Medical Association supports its members' freedom to participate, therefore be it

RESOLVED, that the South Dakota State Medical Association support and sponsor, if necessary, legislation that will allow any willing provider to participate in any health plan in South Dakota, and be it further

RESOLVED, that until such time as this legislation becomes effective DakotaCare will continue to offer products on a competitive basis.

There being no further business the meeting adjourned at 5:45 pm.

MINUTES SECOND COUNCIL MEETING

11:00 am Rm F, G & H, Holiday Inn
Saturday, June 11, 1994 Rapid City, South Dakota

The meeting was called to order by James Engelbrecht, MD, Chairman. Those present for roll call were Drs James Reynolds, Mary Carpenter, James Engelbrecht, Michael Pekas, Thomas Krafka, Stephan Schroeder, Paul Eckrich, John Sall, Richard Holm, Julie Stevens, Richard Wake, Charles Hart, Phillip Hoffsten, Thomas Huber, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Robert Raszowski, Daniel Kennelly, Guy Tam, C. Roger Stoltz, Walter Carlson, Loren Tschetter, Larry Meyer, Carol Zielike, Stephen Haas, Scott Eccarius, Richard Renka, Gregg Tobin, Richard Kafka, Alan Bloom, and staff Robert D. Johnson, Jan Anderson, Donna Sievers and Dean Krogman.

A motion was made to dispense with the reading of the minutes of the previous meeting. The motion was seconded and carried.

BUSINESS:

WORKERS' COMPENSATION - Dr. Carlson reported to the Council regarding a fee schedule for workers' compensation. Following discussion motion was made by Dr. Saylor that a letter of support be sent from SDSMA to the appropriate parties in support of the 85th percentile for the workers' compensation fee schedule and that a copy of this letter go to all councilors. The motion was seconded and carried.

REPORT ON YOUNG PHYSICIANS MEETING - Dr. Carpenter reported to the Council concerning the Young Physicians meeting and indicated the committee would like to go ahead with the meeting between USDSM students and SDSMA at the time of the next Council meeting. A motion was made by Dr. Tam that a meeting be planned in conjunction with the Friday, September 23, Council meeting. The motion was seconded and carried.

PHYSICIAN/LEGISLATIVE MEETING IN PIERRE - Dean Krogman reported on a young physician/young legislator meeting to be held in Pierre. The Council asked Mr. Krogman to get information regarding estimated expense for such a gathering and report back at the September Council meeting.

SEATING OF NEW SODAPAC BOARD MEMBER - A motion was made by Dr. Huber to appoint Brian Tjarks, MD to the SoDaPAC Board of Directors. The motion was seconded and carried.

SEATING OF NEW COUNCILORS AND ALTERNATE COUNCILORS - Dr. Engelbrecht introduced the following newly elected and re-elected councilors and alternate councilors:

COUNCILORS

Aberdeen District 1	Paul Eckrich, MD (1 year)
Brookings/Madison Dist. 3	Richard Wake, MD (2 years)
Mitchell District 6	Lucio Margallo, MD (3 years)
Sioux Falls District 7	Guy Tam, MD (3 years)
	C. Roger Stoltz, MD (3 years)
	Walter Carlson, MD (3 years)
	Loren Tschetter, MD (1 year)
Yankton District 8	Larry Meyer, MD (3 years)
Black Hills District 9	Scott Eccarius, MD (3 years)
	Richard Renka, MD (3 years)
Rosebud District 10	Richard Kafka, MD (3 years)
Northwest District 11	James Collins, MD (3 years)
Whetstone Valley Dist. 12	Kevin Bjordahl, MD (3 years)

ALTERNATE COUNCILORS

Sioux Falls District 7	Karla Murphy, MD (3 years)
Yankton District 8	Jem Hof, MD (3 years)
Black Hills District 9	Dave Johnson, MD (3 years)
Rosebud District 10	R. G. Nemer, MD (3 years)
	Edwin Sweet, MD (2 years)

Dr Krafka moved that the Council seat Charles Hart, MD as Councilor from District 9 to complete the term of Dr. James Engelbrecht. The motion was seconded and carried.

DATES FOR 1994-95 COUNCIL MEETINGS - The Council reviewed and confirmed the following dates for the 1994-95 Council meetings:

Sioux Falls, SD	Friday, September 23, 1994
Pierre	Friday, November 18, 1994
Sioux Falls, SD	Friday, March 31, 1995

ELECTION OF COUNCIL SECRETARY-TREASURER - Dr. Pekas nominated Rodney Parry, MD, as Secretary-Treasurer. He moved that nominations cease and a unanimous ballot be cast for Dr. Parry. The motion was seconded and carried.

AMA NEGOTIATIONS SEMINAR - The Council discussed a negotiations seminar which is available through the AMA. There was considerable interest and the executive office was directed to pursue this. This was accepted for information.

A motion was made by Dr. Haas that the Council name two physicians to observe negotiations with Dakota Health Plans and the Presentation Systems. The motion was seconded. The question was called and the motion failed.

ELECTION OF COUNCIL CHAIRMAN - Dr. Engelbrecht expressed his appreciation to the Council for their cooperation and assistance during his term as Council

Chairman. A motion was made to nominate Richard Holm, MD, as Chairman of the Council. A motion was made that nominations cease and a unanimous ballot be cast for Dr. Holm. The motion was seconded and carried.

There being no further business, the meeting adjourned at 11:50 am.

MINUTES FIRST HOUSE OF DELEGATES MEETING

9:00 am LaCroix Rooms A & B, Civic Center
Thursday, June 9, 1994 Rapid City, South Dakota

The meeting was called to order by Speaker of the House Stephan Schroeder, MD. Those present for roll call include Drs Thomas Krafka, James Reynolds, Mary Carpenter, Rodney Parry, Stephan Schroeder, James Engelbrecht, Robert Ferrell, Michael Pekas, M. George Thompson, Paul Eckrich, Stephen Gehring, James Larson, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Guy Tam, C. Roger Stoltz, Robert Raskowski, John Sall, Walter Carlson, Larry Meyer, Richard Renka, Carol Zielike, Scott Eccarius, Charles Hart, Gregg Tobin, Richard Kafka, Ben Henderson, Alan Bloom, Joe Chang, John Vidoloff, Michael Holte, Jerome Eckrich, Roger Carter, Steven Feeney, Aaron Shives, Robert Rietz, Gerald Turner, Ronold Tesch, Ken Bartholomew, Shrirang Lele, Carey Buhler, Jerome Howe, Ronald Anderson, Angelina Trujillo, Janet Smith, David Hoversten, W. O. Rossing, Robert VanDemark, Jr, Tom Masterson, J. Michael McMillin, Tom Reynolds, John Barker, James Ryan, Karla Murphy, David Rossing, Donald Knudson, Vernon Stensland, R. Herbert Wiebe, Charley Gutch, Greg Schroeder, Jem Hof, Julie Stevens, Thomas Hermann, Cynthia Weaver, John Barlow, Allen Nord, Dave Johnson, Jeanne Bennett, David Sandvik, Victoria Herr, John Ottenbacher, Nathaniel Whitney, O. Myron Jerde, Tony Berg.

Dr. Meyer moved to approve the minutes of the previous meeting as printed and distributed. The motion was seconded and carried.

Dr. Tom Krafka introduced Dr. Donald Schroeder, immediate past president of the Oregon State Medical Association. Dr. Schroeder reviewed the evolution of coverage for health care services. He discussed the Clinton Plan and problems he sees in that plan along with his predictions for health care reform in the near future. He also discussed his "ideal" plan and the Oregon plan.

Dr. Schroeder announced the appointment of the Nominating Committee as determined by the president, Dr. James Reynolds: Drs Howard Saylor, Chairman, John Vidoloff, Steven Feeney, Richard Holm, Phillip Hoffsten, Ronald Anderson, Robert Raskowski, Larry Meyer, Richard Renka, Gregg Tobin, James Collins, Alan Bloom.

Dr. Schroeder announced the appointment of the Reference Committees as follows.

Reference Committee #1 on Credentials, Resolutions and Memorials and Reports of the Officers and Councilors: Drs C. Roger Stoltz, Chairman, Jeff Hagen, Michael Holte, Gerald Turner, Walter Baas, Angelina Trujillo, Tom Reynolds, Julie Stevens, Carol Zielike, Allen Nord, Dave Johnson, Victoria Herr, R. G. Nemer,

Reference Committee #2 on Reports of Commissions on Medical Service; Legislation and Governmental Relations: Drs Aaron Shives, Chairman, Paul Eckrich, Shrirang Lele, Lucio Margallo, K. Gene Koob, David Hoversten, Tom Masterson, David Rossing, Vernon Stensland, David Sandvik, John Barlow, Jeanne Bennett, Richard Kafka, Robert Preston.

Reference Committee #3 on Reports of Commissions on Scientific Medicine; Internal Affairs, Communications and Liaison; and Professional Liability: Drs Richard Wake, Chairman, Jerome Eckrich, Roger Carter, Walter Carlson, Lowell Hyland, Tom Hermann, Janet Smith, Don Knudson, Michael McMillin, John Barker, Jem Hof, Michael Elston.

Reference Committee #4 on Reports of Special Committees and Miscellaneous Business: Drs Steven Haas, Chairman, Joe Chang, Robert Rietz, Jeff Hanson, Douglas Holum, Guy Tam, Loren Tschetter, Karla Murphy, Robert VanDemark, Jr, Scott Eccarius, Cindy Weaver, John Ottenbacher.

Dr. Schroeder referred the reports of the officers and councilors to Reference Committee #1.

Dr. Reynolds called for the introduction of resolutions from the Council which have not been published in the Delegates' Handbook. Dr. Engelbrecht introduced the following resolution from the Council:

RESOLUTION #2

TO: House of Delegates
South Dakota State Medical Association

FROM: Council
South Dakota State Medical Association

SUBJECT: Any Willing Provider Legislation

WHEREAS, many competitive health care plans exclude participation of providers, and

WHEREAS, the South Dakota State Medical Association supports its members' freedom to participate; therefore be it

RESOLVED, that the South Dakota State Medical Association support and sponsor, if necessary, legislation that will allow any willing provider to participate in any health plan in South Dakota, and be it further

RESOLVED, that until such time as this legislation becomes effective DakotaCare will continue to offer products on a competitive basis.

Dr. Schroeder referred this resolution to Reference Committee #4, Reports of Special Committees and Miscellaneous Business.

Resolution #2 was adopted at the Second House of Delegates meeting.

Dr. Schroeder called for introduction of resolutions from district medical societies which have not been published in the Delegates' Handbook. Being none, he called for introduction of resolutions by individual members which have not been published in the Delegates' Handbook. Dr. Walter Carlson introduced the following resolution:

RESOLUTION #3

TO: House of Delegates
South Dakota State Medical Association

FROM: Walter D. Carlson, MD
and Other SD Physicians

SUBJECT: Dakota Health Plans, Inc.

WHEREAS, SDSMA elects the Board of Directors of DakotaCare, and

WHEREAS, the DakotaCare Board of Directors established a subsidiary of DakotaCare called Dakota Health Plans, Inc. for the purpose of developing a managed care network of providers, and

WHEREAS, Dakota Health Plans, Inc. is currently operational and in plan documents numerous South Dakota hospitals are excluded from reimbursement and participation in the plan network, and

WHEREAS, numerous SDSMA members and DakotaCare shareholders are physicians in such hospitals and accordingly, the exclusion of hospitals has the practical effect of excluding SDSMA members and DakotaCare shareholders from Dakota Health Plans, Inc. participation and reimbursement;

BE IT RESOLVED, that no SDSMA member or South Dakota hospital provider shall be excluded by Dakota Health Plans, Inc. in the establishment and operation of the Dakota Health Plans, Inc. network; and

BE IT RESOLVED, that any excluded SDSMA member or South Dakota hospital providers shall be immediately offered Dakota Health Plan participation agreement under the same terms and conditions offered to those participation providers who have already executed a participation agreement and which are currently in effect; and

BE IT RESOLVED, that Dakota Health Plans, Inc. shall suspend and cease all operations of Dakota Health Plans, Inc. until the above providers are signatories to a participation agreement.

Dr. Schroeder referred Resolution #3 to Reference Committee #4, Reports of Special Committees and Miscellaneous Business.

Resolution was amended by the Reference Committee and at the Second House of Delegates and adopted as amended at the Second House of Delegates' meeting.

Dr. Schroeder referred pages 1 - 16 of the Delegates' Handbook to the Reference Committee on Credentials, Resolutions and Memorials; and Reports of Officers and Councilors.

Dr. Schroeder referred pages 17 - 20 including Resolution #1 to the Reference Committee on Reports of Commissions on Medical Service; and Legislation and Governmental Relations.

RESOLUTION #1

TO: House of Delegates
South Dakota State Medical Association

FROM: Seventh District Medical Society

SUBJECT: Tort Reform

RESOLVED, the South Dakota State Medical Association support legislation to bring about tort reform in the state of South Dakota

Resolution was adopted at the Second House of Delegates' meeting.

Dr. Schroeder referred pages 21 - 24 to the Reference Committee on Reports of Commissions on Scientific Medicine; Internal Affairs, Communications and Liaison; and Professional Liability.

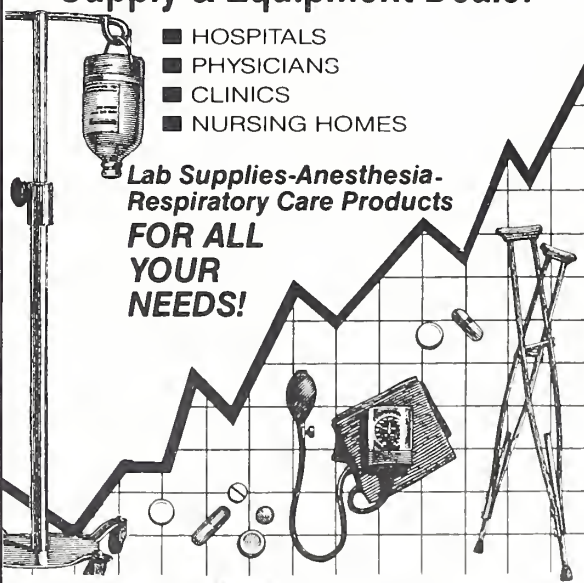
Dr. Schroeder referred pages 25 - 30 to the Reference Committee on Reports of Special Committees and Miscellaneous Business.

Dr. Schroeder announced the various business, scientific and social events which are scheduled throughout the annual meeting. There being no further business the meeting adjourned at 10:30 am.

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MINUTES SECOND HOUSE OF DELEGATES

10:00 am
Saturday, June 11, 1994

Rooms D & E, Holiday Inn
Rapid City, South Dakota

The meeting was called to order at 10:00 am, by Stephan Schroeder, MD, Speaker of the House. Those present for roll call were Drs Thomas L. Krafka, James Reynolds, Mary Carpenter, Stephan Schroeder, James Engelbrecht, Robert L. Ferrell, Michael Pekas, M. George Thompson, Mike Holte, Paul Eckrich, G.E. Tracy, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Jeff Hanson, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Loren Tschetter, Guy Tam, C. Roger Stoltz, Robert Raskowski, John Sall, Walter Carlson, Larry Meyer, Bruce Mannes, Carol Zielike, Scott Eccarius, Stephen Haas, Gregg Tobin, Richard Kafka, Alan Bloom, John Vidoloff, Jerome Eckrich, Roger Carter, Steven Feeney, Aaron Shives, Gerald Turner, Robert Shaskey, Shrirang Lele, Ronald Anderson, Jerome Howe, Carey Buhler, Angelina Trujillo, Scott Lockwood, Janet Smith, David Hoversten, W.O. Rossing, Tom Reynolds, John Barker, James Ryan, Karla Murphy, David Rossing, R. Herbert Wiebe, Charley Gutch, Gregg Schroeder, David Bean, Jem Hof, Julie Stevens, Duane Reaney, Cynthia Weaver, Michael Elston, John Barlow, Jeanne Bennett, David Sandvik, Victoria Herr, Charles Hart, Nathaniel Whitney and Tony Berg. A quorum was present and the meeting was declared competent to proceed.

A motion was made to dispense with the reading of the minutes of the previous meeting inasmuch as they will be printed and distributed. The motion was seconded and carried.

Dr. Cynthia Weaver read the Report of the Nominating Committee.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee submits the following recommendations for the consideration of the House of Delegates:

OFFICERS

President-Elect	Mary Carpenter, MD
Vice President	James Engelbrecht, MD
AMA Delegate	Michael Pekas, MD
AMA Alternate Delegate	Thomas Krafka, MD
Speaker of the House	Stephan Schroeder, MD

COUNCILORS

Aberdeen District 1	Paul Eckrich, MD (1 year)
Brookings/Madison Dist. 3	Richard Wake, MD (2 years)
Mitchell District 6	Lucio Margallo, MD (3 years)
Sioux Falls District 7	Guy Tam, MD (3 years)
	C. Roger Stoltz, MD (3 years)
	Walter Carlson, MD (3 years)
	Loren Tschetter, MD (1 year)
Yankton District 8	Larry Meyer, MD (3 years)
Black Hills District	J. Geoffrey Slingsby, MD (3 years)
	Richard Renka, MD (3 years)

Rosebud District 10	Richard Kafka, MD (3 years)
Northwest Dist. 11	James Collins, MD (3 years)
Whetstone Valley Dist.12	Kevin Bjordahl, MD (3 years)

ALTERNATE COUNCILORS

Sioux Falls Dist. 7	Karla Murphy, MD (3 years)
Yankton Dist. 8	Jem Hof, MD (3 years)
Black Hills Dist. 9	Dave Johnson, MD (3 years)
	Charles Hart, MD (3 years)
Rosebud Dist. 10	R. G. Nemer, MD (3 years)
	Edwin Sweet, MD (2 years)

ANNUAL MEETING SITE

1995 - Sioux Falls, SD	June 8-10, 1995
1996 - Rapid City, SD	June 6-8, 1996
1997 - Sioux Falls, SD	June 5-7, 1997

Respectfully submitted,

NOMINATING COMMITTEE

Howard L. Saylor, Jr., MD, Chairman
John Vidoloff, MD
Steven Feeney, MD
Richard Holm, MD
Phillip Hoffsten, MD
Ronald Anderson, MD
Robert Raskowski, MD
Larry Meyer, MD
Richard Renka, MD
Gregg Tobin, MD
Alan Bloom, MD

A motion was made to accept the Report of the Nominating Committee with the following change: Black Hills District Councilor J. Geoffrey Slingsby, MD be changed to Scott Eccarius, MD. The motion was seconded and carried.

Dr. C. Roger Stoltz read the Report of the Reference Committee on Credentials, Resolutions and Memorials and Reports of Officers and Councilors.

REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS, RESOLUTIONS AND MEMORIALS AND REPORTS OF OFFICERS AND COUNCILORS

The following delegates, alternate delegates, officers and councilors of the South Dakota State Medical Association were present: Drs. Thomas Krafka, James Reynolds, Mary Carpenter, Rodney Parry, Stephan Schroeder, James Engelbrecht, Robert Ferrell, Michael Pekas, M. George Thompson, Paul Eckrich, Stephen Gehring, James Larson, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Guy Tam, C. Roger Stoltz, Robert Raskowski, John Sall, Walter Carlson, Larry Meyer, Richard Renka, Carol Zielike, Scott Eccarius, Charles Hart, Gregg Tobin, Richard Kafka, Ben Henderson, Alan Bloom, Joe Chang, John Vidoloff, Michael Holte, Jerome Eckrich, Roger Carter, Steven Feeney, Aaron Shives, Robert Rietz, Gerald Turner, Ronald Tesch, Ken Bartholomew, Shrirang Lele, Carey Buhler, Jerome Howe, Ronald Anderson, Angelina Trujillo,

Janet Smith, David Hoversten, W. O. Rossing, Robert Van-Demark, Jr., Tom Masterson, J. Michael McMillin, Tom Reynolds, John Barker, James Ryan, Karla Murphy, David Rossing, Donald Knudson, Vernon Stensland, R. Herbert Wiebe, Charley Gutch, Gregg Schroeder, Jem Hof, Julie Stevens, Thomas Hermann, Cynthia Weaver, John Barlow, Allen Nord, Dave Johnson, Jeanne Bennett, David Sandvik, Victoria Herr, John Ottenbacher, Nathaniel Whitney, O. Myron Jerde, Tony Berg.

A quorum was present for the meeting of the House of Delegates. Total registration for the convention is 263, including 146 physicians, 12 guests, 66 Alliance members, and 49 sponsoring companies.

The reference committee reviewed the reports of the officers and councilors and recommends they be accepted as submitted.

The reference committee submits the following resolution for the consideration of the House of Delegates:

WHEREAS, numerous people have been involved in planning, arranging and ensuring the success of the 1994 annual meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the State Medical Association extend its appreciation and thanks to the Black Hills District physicians and the Black Hills District, Pierre District, Rosebud District and Northwest District Alliances for their endeavors, and

BE IT RESOLVED, that the State Medical Association extend its thanks to the management of the Rushmore Plaza Holiday Inn, the Civic Center, Meadowbrook Golf Course, Rapid City Trap Club and Arrowhead Country Club for their excellent facilities and staff, and

BE IT RESOLVED, that the State Medical Association extend its thanks to the Rapid City Journal, KOTA-TV and radio, KEVN-TV, KIMM, KKLS and KTOQ radio for publicizing this event, and

BE IT RESOLVED, that the State Medical Association extend special gratitude to the sponsoring companies for their support and participation, and

BE IT FURTHER RESOLVED, that \$100 be donated to the South Dakota Medical School Endowment Association in memory of each of the following physicians who died during the past year:

Curtis Wait, MD, Brookings
William J. Perry, MD, Rapid City
Richard E. Stewart, MD, Sturgis
Jaroslav A. Zanka, MD, Rapid City
John D. Bailey, MD, Rapid City
John B. Slingsby, MD, Rapid City
Delbert L. Brown, MD, Sioux Falls
Stephen M. Brzica, MD, Sioux Falls
Bedford T. Otey, MD, Flandreau
Robert C. McGee, MD, Aberdeen

Respectfully submitted,

REFERENCE COMMITTEE ON
CREDENTIALS, RESOLUTIONS AND

REPORTS OF OFFICERS AND COUNCILORS

C. Roger Stoltz, MD, Chairman

Michael Holte, MD

Gerald Turner, MD

Walter Baas, MD

Angelina Trujillo, MD

Tom Reynolds, MD

Julie Stevens, MD

Carol Zielike, MD

Victoria Herr, MD

Tony Berg, MD

A motion was made to accept the Report of the Reference Committee on Credentials, Resolutions, and Memorials and Reports of Officers and Councilors. The motion was seconded and carried.

Dr. Aaron Shives read the report of the Reference Committee on Reports of the Commission on Medical Service and the Commission on Legislation and Governmental Relations.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSION ON MEDICAL SERVICE AND THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

The Reference Committee reviewed the report of the Commission on Medical Service and recommends acceptance of this report.

The Reference Committee reviewed the report of the Commission on Legislation and Governmental Relations and recommends acceptance of this report.

The Reference Committee recommends adoption of Resolution #1 as printed in the handbook.

Respectfully submitted,

Reference Committee on Reports of
Commissions on Medical Service;
Legislation and Governmental Relations

Aaron Shives, MD, Chairman

Paul Eckrich, MD

Shrirang Lele, MD

David Hoversten, MD

David Rossing, MD

Vernon Stensland, MD

John Barlow, MD

Richard Kafka, MD

A motion was made to accept the report of the Reference Committee on Reports of the Commissions on Medical Service; and Legislation and Governmental Relations. The motion was seconded and carried.

Dr. Richard Wake read the report of the Reference Committee on Reports of the Commissions on Scientific Medicine; Internal Affairs, Communications and Liaison; and Professional Liability.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSIONS ON SCIENTIFIC MEDICINE; INTERNAL AFFAIRS, COMMUNICA- TIONS AND LIAISON; AND PROFESSIONAL LIABILITY

The Reference Committee reviewed the report of the Commission on Scientific Medicine. The Reference Committee recommends acceptance of this report.

The Reference Committee reviewed the report of the Commission on Internal Affairs, Communications and Liaison. The Reference Committee recommends acceptance of this report.

The Reference Committee reviewed the proposed Budget for the fiscal year 1994-95. The Reference Committee discussed two new line items listed in the Budget and upon clarification, the Reference Committee recommends acceptance of this report.

The Commission on Professional Liability had no report for 1993-94.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS
OF THE COMMISSIONS ON
SCIENTIFIC MEDICINE, INTERNAL
AFFAIRS, COMMUNICATIONS AND LIAISON AND
PROFESSIONAL LIABILITY
Richard Wake, MD, Chairman
Jerome Eckrich, Jr, MD
Roger Carter, MD
Janet Smith, MD
Don Knudson, MD
Tom Hermann, MD
John Barker, MD
Jem Hof, MD
Michael Elston, MD

A motion was made to accept the Report of the Reference Committee on Reports of the Commissions on Scientific Medicine; Internal Affairs, Communications and Liaison; and Professional Liability. The motion was seconded and carried.

Dr. Steven Haas read the Report of the Reference Committee on Reports of Special Committees and Miscellaneous Business.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS

The Reference Committee considered reports of the Continuing Medical Education Commission, the Budget and Audit Committee, the ShareCare Committee, the Grievance Commission, the South Dakota Political Action Committee, the Board of Directors of the South Dakota Medical School Endowment Association, the Physicians' HELP Committee, the Archives and History Commission, the AIDS Task Force and the Medical-Legal Committee and recommends approval of these reports.

The Reference Committee considered Resolution #3, amended the resolution and recommends adoption of the amended resolution as follows:

WHEREAS, SDSMA elects the Board of Directors of DakotaCare, and
WHEREAS, the DakotaCare Board of Directors established a subsidiary of DakotaCare called Dakota Health Plans, Inc. for the purpose of developing a managed care network of providers, and
WHEREAS, Dakota Health Plans, Inc. is currently operational and in plan documents numerous South Dakota hospitals are ex-

cluded from reimbursement and participation in the plan network, and

WHEREAS,

numerous SDSMA members and DakotaCare shareholders are physicians in such hospitals and accordingly, the exclusion of hospitals has the practical effect of excluding SDSMA members and DakotaCare shareholders from Dakota Health Plans, Inc. participation and reimbursement;

BE IT RESOLVED, that Dakota Health Plans continue its marketing program and commit to up to six, but not more than six, participants to a meeting with no more than six members from the Presentation Health System by or before the next Council meeting in an attempt to resolve the differences that now exist and bring the Presentation Health System in Dakota Health Plans.

The Reference Committee considered Resolution #2 and recommends adoption of this resolution as follows:

WHEREAS, many competitive health care plans exclude participation of providers, and

WHEREAS, the South Dakota State Medical Association supports its members' freedom to participate; therefore be it

RESOLVED, that the South Dakota State Medical Association support and sponsor, if necessary, legislation that will allow any willing provider to participate in any health plan in South Dakota, and be it further

RESOLVED, that until such time as this legislation becomes effective DakotaCare will continue to offer products on a competitive basis.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS OF SPECIAL
COMMITTEES AND MISCELLANEOUS BUSINESS
Steven Haas, MD, Chairman
Robert Rietz, MD
Guy Tam, MD
Karla Murphy, MD
Robert VanDemark, Jr, MD
Scott Eccarius, MD
Cindy Weaver, MD
John Ottenbacher, MD
Jerome Howe, MD

A motion was made on the floor of the House that the RESOLVED paragraph in Resolution #3 be amended to read as follows:

BE IT RESOLVED, that Dakota Health Plans continue its marketing program and that representatives of SDSMA commit up to six, but not more than six, participants to a meeting with no more than six members from the Presentation Health System by or before the next Council meeting in an attempt to resolve the differences that now exist and bring the Presentation Health System into Dakota Health Plans.

The motion was seconded.

A second motion was made on the floor of the House to further amend the RESOLVED paragraph as follows:

BE IT RESOLVED, that Dakota Health Plans continue its marketing program and that representatives of SDSMA and Dakota Health Plans, commit up to six, but not more than six, participants to a meeting with no more than six members from the Presentation Health System by or before the next Council meeting in an attempt to resolve the differences that now exist and bring the Presentation Health System into Dakota Health Plans.

The motion was seconded.
Vote was taken on the second amendment to the Resolution. The second amendment failed.
A vote was taken on the original amendment to the Resolution. The original amendment failed.
A third motion was made to amend the RESOLVED paragraph as follows:

BE IT RESOLVED, that Dakota Health Plans continue its marketing program and commit up to six, but not more than six, participants to a meeting with no more than six members from the Presentation Health System by or before the next Council meeting in an attempt to resolve the differences that now exist and bring the Presentation Health System into Dakota Health Plans and that SDSMA legal counsel review this to assure compliance with FTC regulations.

The motion was seconded and carried.
A motion was made to accept the balance of the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business. The motion was seconded and carried.

Dr. James Reynolds was installed as president of the South Dakota State Medical Association and briefly addressed the House of Delegates. The presidential address was followed by introduction of the new officers.
There being no further business, the meeting adjourned at 11:20 am.

PRESIDENTIAL OATH OF OFFICE

I SOLEMNLY SWEAR THAT I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans.
I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

UNIVERSITY OF MARYLAND
BALTIMORE

South Dakota Society
Of
Pathologists





**Helen Owens, President, South Dakota
State Medical Association Alliance**

*I am only one,
But still I am one.
I cannot do everything,
But still I can do something;
And because I cannot do everything,
I will not refuse to do
the something I can do.*

Edward Everett Hale, Chaplain
United States Senate, 1903-1909

What You Can Do For The Alliance

The physician's spouses listed below have agreed to serve on the South Dakota State Medical Association Alliance Board of Directors for 1994-1995. I am most grateful for their decision to lend their expertise and assistance to the Alliance. This capable Alliance Board wants to help and support the Medical Society in any way that we can to further the goals of your organization. In order to do that effectively, we need your help. Please encourage your spouses to join the Medical Alliance!!! Even though their degree of participation may vary from year to year, their membership gives us a position of strength from which to speak and act. You may even consider paying their dues

through your office or clinic budget. Then, together, we can work towards our mutual goals.

Thank you in advance for your support!!

Helen Owens

President-Elect	Susan Tjarks
1st Vice-President	Marilynn Engelbrecht
2nd Vice-President	Crista Landreth
Secretary	Connie Schroeder
Treasurer	Karen Koob
Immediate Past President	Patti Herlihy
Historian	Patti Herlihy
Editor	Kathy Fiegen
Advisor Emeritus	Virginia Stoltz
Parliamentarian	Myrna Anderson
Bylaws	Karen Pekas, Mollie O. Krafka, Jeanne Taylor
Finance	Karen Koob, Marilyn Finney, Susan Tjarks
Membership	Carrie Hansen, Karen Koob, Mollie O. Krafka
Nominating	Patti Herlihy, Jacalyn Slingsby, Boots Mabee
AMA-ERF	Marie Hovland, Carmen Chavier, Roberta Famestad
Health Projects	Collette Madison, Jean Haley
Legislation	Darlene Buhler, Ruth Parry, Peggy Huber, Marlys Porter
PAC	Karen Pekas, Jacalyn Slingsby
Project Bank	Lolis Linde
Planning and Development	Crista Landreth, Holly Hohm, Carroll Peterson
Auditing	Linda Heilman, Lori Turner
Archives	Shirley Ryan
Medical Student Spouse Advisors	Katherine Ann Talley, Ruth Parry
Public Relations Consultants	Mary Ann Harris, Karen Waltman
Physician's HELP Committee	Dr Gerti Janss, Jane Munson

REPORT OF THE PRESIDENT AND CHAIRMAN OF THE EXECUTIVE COMMISSION

It has been my privilege to serve as your president this year. The opportunity to represent you to the AMA and visit all the districts was originally intimidating but ultimately has been a richly rewarding experience.

The big issue this year was "Health System Reform" and a year ago we were facing and worrying about major change. The good news is that little has happened both on a national and state level. The bad news is that pressure from business, government and other "purchasers" of health care may lead to networks, coalitions, etc., that make it difficult for the independent practices to survive.

I have found that those groups who are pushing these changes want to exclude physicians from the planning and development stages. If we want to be involved, then it is very important that physicians are active on all levels of organization including SDSMA, AMA, local Chamber of Commerce and business groups as well as local, state and national politics. We also must increase physician understanding and involvement with those entities that can be our allies such as DAKOTACARE, Blue Shield, and the PRO. We are indeed fortunate to have these organizations which allow physicians to have some control of the new structure of medical care and reimbursement.

As I prepare to leave this office, I am grateful and indebted to the many people who work at the SDSMA office: To Bob, Paul, and Jan, who answered my incessant questions; to Stephanie, who always knew how to find them; to Jeri, who put up with my procrastination; and to the many unnamed, who make our office function so well. It's unfortunate that more of our membership isn't able to hold office so there would be a better understanding of what a good organization this is.

Special thanks to Bob, who serves as mentor, confidante, chauffeur, guide, and chief "door opener." If there is anyone in South Dakota who doesn't know, like and respect Bob, I didn't meet that person this year. With his continued care and the capability of our upcoming leadership, the future of our Association is bright. I do want to welcome Jim Reynolds and assure him that this year will be a rewarding experience.

Respectfully submitted,

Thomas Krafka, MD
President

The Reference Committee reviewed the report of the President and Chairman of the Executive Commission and recommended it be accepted as submitted.

REPORT OF THE PRESIDENT ELECT

As President-Elect of the South Dakota State Medical Association, my primary charge is to ensure the smooth running of the State Medical Association by careful scrutiny of the president. I am pleased to report that Dr. Krafka's performance has been exemplary and he has needed very little assistance from his President-Elect.

In addition to the state activities of the South Dakota State Medical Association, I was involved with two national AMA meetings. The first was the AMA Leadership Conference held in San Francisco in February.

A seminar on physician organization was of particular interest. The Connecticut State Medical Association reported their experience with a statewide HMO that parallels the development of the South Dakota State Medical

Association HMO, DAKOTACARE. The Connecticut HMO was founded in 1986 and has continued to grow and flourish in a highly competitive marketplace. They continue to be extremely optimistic of the continued future of their program. In addition, the states of South Carolina, New York and Michigan reported their experiences with physician organizations either in the form of physician organizations (POs), physician hospital organizations (PHOs), statewide preferred provider organizations (PPOs) or other managed care programs. In addition, Maryland is looking at the possibility of a statewide HMO organization.

Clearly it is evident that South Dakota is in an enviable position with the statewide organization that we as physicians own and as a state medical association control through the House of Delegates. DAKOTACARE gives physicians the ability to control their own destiny and be involved in the medical care decisions that is excluded from other managed care systems. Currently the Hatch-Archer bill as proposed would relieve physicians from Federal Trade Commission regulations that now exist and should be supported through our legislative contacts.

Among the many speakers, Ira Magaziner, the author of the Clinton Health Care Plan spoke. He defended the Clinton Health Care Plan vigorously. In the question and answer period he made the statement, "Would you rather work for the government or for five large insurance companies." His point being that currently the large insurance companies are intruding in medical care decisions and the traditional doctor/patient relationship in a way that he feels is worse than if the Clinton Health Care Plan was approved. This certainly gives one pause to think of the implications that a large government or business may impose upon our practice of medicine.

On May 8, I traveled to Washington, DC to the AMA Legislative Conference. The speakers included Senator Phil Gramm (R, Texas), Senator Bob Dole (R, Kansas), Senator John H. Chafee (R, Rhode Island), Senator Orrin G. Hatch (R, Utah), and Senator Edward M. Kennedy (D, Massachusetts). Congressional speakers included Congressman Newt Gingrich (R, 6th District, Georgia), Congressman Jim McDermott, MD (D, 7th District, Washington), Congressman John D. Dingell (D, 16th District, Michigan), Congressman J. Roy Rowland, MD (D, 8th District, Georgia), and Congressman Jim Cooper (D, 4th District, Tennessee).

The mood of the AMA physicians at this conference was clearly more upbeat than a year ago. At that time it was felt that this program was being put together behind closed doors in the executive branch of government with little or no physician or public input. These speakers this year, with a few exceptions, indicated that the debate will be open, complete, and thorough through the legislative process. It was clearly the feeling that the momentum had now passed from the White House to the legislature.

General agreement among all of the speakers could be listed as follows:

1. Universal coverage for all Americans.
2. The portability of insurance coverage when changing jobs.
3. That preexisting conditions should not exclude anyone from obtaining health care coverage.
4. That the current Clinton Health Care proposal was unlikely to be passed in its current form and that a

significant number of changes would be required to arrive at a consensus.

5. The costs of any of the proposals are unclear, but that further debt burden will be looked at critically.

Disagreement will fall along partisan political lines as to the relative involvement of government versus free enterprise.

Finally, all speakers urged individual participation through our respective legislators feeling that the next four to six months will be the crucial time as the health care issue is discussed in all of the committee structures.

Respectfully submitted,
James R. Reynolds, MD
President-Elect

The Reference Committee reviewed the report of the President-Elect and recommended it be accepted as submitted.

REPORT OF THE VICE PRESIDENT

This has been an interesting year as Vice President and a successful one. We are continuing to investigate the possibility of having a locum tenens service available to primary care physicians in this state. With the Office of Rural Health's assistance we hope to find a workable plan that will aid in the continued delivery of good health care to the rural areas.

At the interim meeting of the AMA a resolution was passed to allocate a seat on the Board of Trustees to a Young Physician so that we can be sure that our specific concerns are heard and addressed. The Young Physicians, with the help of the AMA and state societies were successful in reversing the Medicare reimbursement disparity to physicians in their first five years in practice.

I look forward to continued involvement in our State Medical Association.

Respectfully submitted,
Mary S. Carpenter, MD
Vice President

The Reference Committee reviewed the report of the Vice President and recommended it be accepted as submitted.

REPORT OF THE SECRETARY TREASURER

As the newest officer of the South Dakota State Medical Association, my initial objective was to evaluate the decision making process and fiscal awareness of the organization. I am pleased to report that the Executive Director, staff, and officers are extremely committed to the profession of medicine, and responsive to the membership. The annual budget presentations were extensive and open for thorough discussion. Council members receive current fiscal information in their quarterly packets.

A special acknowledgement to Dr. Mary Carpenter, who has capably fulfilled the position of Secretary Treasurer of the Association for the past several years. It is my privilege to be taught by a former student.

Respectfully submitted,
Rodney Parry, MD
Secretary Treasurer

The Reference Committee reviewed the report of the Secretary Treasurer and recommended it be accepted as submitted.

REPORT OF THE CHAIRMAN OF THE COUNCIL

This is my third year as Chairman of the Council and I am pleased to report the Council has considered a number of items pertinent to the membership, formulated decisions and provided direction for the Association.

Officers elected and Councilors seated during the year include:

Chairman of the Council	James Engelbrecht, MD
Secretary-Treasurer	Rodney Parry, MD
Councilors	James Hovland, MD, Aberdeen
	Stephen Gehring, MD, Watertown
	Richard Holm, MD, Madison/Brookings
	Richard Wake, MD, Madison/Brookings
	Thomas Huber, MD, Pierre
	Curtis Buchholz, MD, Huron
	Howard Saylor, MD, Huron
	Walter Baas, MD, Mitchell
	Jeffrey Hagen, MD, Seventh
	Lowell Hyland, MD, Seventh
	Daniel Kennelly, MD, Seventh
	Walter Carlson, MD, Seventh
	Loren Tschetter, MD, Seventh
	Carol Zielike, MD, Black Hills
	Richard Kafka, MD, Rosebud
	Gregg Tobin, MD, Rosebud
	Ben Henderson, DO, Northwest
	Alan Bloom, MD, Whetstone Valley

Action taken by the Council during this past year includes:

The Commission on Professional Liability developed a questionnaire to be completed by companies writing professional liability insurance in the state. The Council approved this and directed the information be available for Association members to assist them in selecting a company which best fits their needs.

A statewide CME conference listing will be published in the South Dakota Journal of Medicine on a monthly basis.

Physicians reappointed to the Board of Directors of the Endowment Association for one year terms include Doctors Joseph Hamm, Warren Jones, Howard Saylor, Bruce Lushbough, T. H. Sattler, Robert Giebink and Bruce Allen.

Appointments to the SoDaPAC Board of Directors include Doctors Duane Reaney, Charles Hart, Brad Randall and Michael Pekas and Alliance members Anne Barlow, Jackie Slingsby, Marilynn Engelbrecht, Ruth Parry, Deana Barth, Cathy Brechtelsbauer, Darlene Buehler, Helen Owens, and Susan Tjarks.

The staff was directed to hold meetings with the leadership in each district regarding the organizational structure, deadlines for reports and information on promoting and maintaining membership and interest in Association activities.

Because the dates for the AMA annual meeting conflicted with the dates for the state meeting, the staff was directed to consider changing the State Association Meeting to April or May. This was considered and the Council decided the dates should remain as originally scheduled in June since the AMA meeting dates would be changed beginning in 1995 and would no longer conflict with the state meeting.

A memorial fund was established in memory of the late Governor George Mickelson. This scholarship fund for medical students at USDSM is administered by the Endowment Association and totals nearly \$18,000 at this time. Another solicitation will be going to all South Dakota physicians to increase the memorial fund.

The community of Watertown participated in a Medicaid pilot program utilizing a managed care/gatekeeper concept and the Council has continued to monitor this. At this time it appears the program will be expanded to one or two other communities in the state. Pierre physicians are meeting with state government to develop a similar program for state employees; however, this is still in the discussion stage.

The Council called for personal involvement by physicians in the physical examination and certification of student athletes. The 1994 legislature subsequently passed legislation which allows physician assistants to perform and certify to such exams under the supervision of their employing physician.

A mission statement for the State Medical Association was adopted. This statement says the State Medical Association will:

1. serve as an advocate for quality health care for the citizens of South Dakota,
2. assure that health care is ethically delivered to patients by physicians throughout the geographic and economic diversity of South Dakota,
3. support the education of South Dakota's future physicians and
4. provide a wide variety of innovative services for its members and employees.

Medical student involvement in Association activities was discussed. Officers and medical school faculty will be arranging meetings and socials with students to provide information on organized medicine and encouraging membership in the State Association as well as the AMA.

The Council considered extensive information provided on the Clinton Health Care Plan and the State Health Care Reform. Dr. Krafka, as State Association President, met on a continuing basis with the State Health Department and provided current updates for the Councilors to discuss with their constituents.

South Dakota physicians elected to honorary life membership during the year include: Drs Harold Frost, Charles Monson, Clifford Gryte, Joseph Cruse, Duane Reaney, Robert VanDemark, Sr., Edward Peters, George Wyatt, Lester Steidl, Jack Berry, John Hewitt, Neil Elkjer and Alberto Lopez.

Reports from the Budget and Audit Committee including the proposed budget for 1994-95; the Executive Commission; the Physicians HELP Committee; the Continuing Medical Education Committee; the Commission on Scientific Medicine; the Commission on Medical Service; the Commission on Internal Affairs, Communications and Liaison; the Commission on Legislation and Governmental Relations including the 1994 legislative program; and the Medical-

Legal Committee were considered and appropriate action taken to carry out the objectives and recommendations of these committees/commissions.

Several changes in the Association's group health insurance through Blue Cross/Blue Shield and DakotaCare were approved. This included the discontinuation of several plans and the offering of riders for additional coverage.

Nominations were received for award recipients for 1994 and recipients were selected by secret ballot. The awards will be presented at the annual meeting banquet.

Regular updates have been provided to the Council concerning our suit along with the North Dakota, Iowa and Wisconsin Medical Associations contesting the constitutionality of Minnesota's Health Right Act and their attempt to collect taxes from South Dakota physicians.

The Council established a task force to meet with representatives of the Health Department and SDSMA legal counsel to address the problem of federal regulations relating to family planning clinics and minors right to privacy and state law which requires parental consent and the liability of South Dakota physicians.

The Council represents the State membership and you are encouraged to attend district meetings, express your concerns to your councilors and offer any recommendations you feel will improve and enhance the practice of medicine in South Dakota. With sincere appreciation the Council acknowledges the support of Donna Sievers, Jan Anderson and Bob Johnson.

Respectfully submitted,

James Engelbrecht, MD
Chairman of the Council

The Reference Committee reviewed the report of the Chairman of the Council and recommended it be accepted as submitted.

REPORT OF THE AMA DELEGATE

Thank you for the privilege of serving in the American Medical Association House as your delegate. The annual meeting was held in Chicago in June, the interim meeting in New Orleans in December, and you have received a report on the meeting in New Orleans. Both meetings were attended by myself as delegate and Dr. Michael Pekas attended as alternate delegate. Dr. Tom Krafka and Bob Johnson attended in their respective capacity as president and chief executive officer of the South Dakota State Medical Association.

The above testified either in the reference committee or on the floor of the House upon very difficult subjects which have been covered in the interim report and will again, I'm sure, be covered in the annual report of the president.

While the Clinton administration continues its backdoor tactics of staging presentations by patients with unfortunate medical or economic features in their illness, the AMA continues its pursuit of excellence in health care and, in my opinion, a rock solid common sense approach to reform. It is very difficult to counter the orchestrated character assassination of medicine in general and the blatant lies of both President Clinton and, just to name another, Senator Jay Rockefeller. As you can see from the above, it is very difficult not to be cynical and negative with regard to the healthcare reform as proposed by this administration.

On an individual basis, patients still feel their physician is one of the most honest, altruistic and caring persons in their private estimation; but collectively, the administration

has been able to drive wedges between the patients and medicine as an entity.

It is my opinion that the AMA is still the only logical choice to represent the interests of all of medicine.

Reports of the action of the House of Delegates in both meetings have been sent to you prior to this communication.

Now, as before, we need to continue our support of the AMA. Even the Clinton Administration embraces most of the aspects of Health Access America as proposed by the AMA. Our problem continues to be that, while professing to support these principles in public, the administration undermines the effort in private; and has not ventured Step 1 from its original program entitled "Healthcare Update - The Need for Healthcare Reform." The AMA, however, will continue representing the welfare of our patients above all.

Respectfully submitted,

Robert L. Ferrell, MD
AMA Delegate

The Reference Committee reviewed the report of the AMA Delegate and recommended it be accepted as submitted.

REPORT OF THE AMA ALTERNATE DELEGATE

As your alternate delegate to the AMA last year, I attended the AMA annual meeting in June in Chicago and the interim meeting this past December in New Orleans. The American Medical Association and its federation of state medical societies and associations continues to act in the best interests and for the general welfare and benefit of all physicians and their patients, regardless of their specialty. The AMA is the one umbrella organization representing the whole of medicine as recognized by the politicians and citizens of this country. Health care reform continues as one of the most important and widely debated topics in our country today. However, it has begun to share the spotlight politically with the budget deficit and crime in this country as one of the three most important considerations that need to be dealt with as far as our citizens are concerned. It appears that the Clinton Health Care Plan, if it survives in Congress at all, will be greatly modified. This, of course, demands that the AMA continue its involvement in helping to fashion a meaningful and rational health care plan for our country and its citizens. Physician support and involvement in the AMA is more important today than it ever has been.

I have attended all of the Council and Executive Commission meetings during this past year and I have been involved in all of the activities and projects of the State Medical Association as requested by your president.

I look forward to continuing to serve you in this position. Please feel free to contact me at any time concerning your views with regard to organized medicine so that I can better represent you in the North Central Medical Conference and the American Medical Association.

Respectfully submitted,

Michael W. Pekas, MD
AMA Alternate Delegate

The Reference Committee reviewed the report of the AMA Alternate Delegate and recommended it be accepted as submitted.

REPORT OF THE SPEAKER OF THE HOUSE

The chief duty of the Speaker of the House of Delegates

is to ensure that our annual meeting serves as a democratic forum for the delegates and alternates. Each year increasingly important and pertinent items are discussed at the general House sessions and reference committees.

It remains a privilege to serve in the capacity as the Speaker. My thanks to the Association staff and the delegates and alternates for their efforts in making our meeting productive. As always the introduction of resolutions and subsequent debate over their merits is encouraged.

Respectfully submitted,

Stephan D. Schroeder, MD
Speaker of the House

The Reference Committee reviewed the report of the Speaker of the House and recommended it be accepted as submitted.

REPORT OF THE COUNCILOR AT LARGE

There is always a sense of loss to be finishing a job with which you have worked for so many years. This has to be true for all past presidents of this great organization. My only regret is to think that so many young physicians will look back on this period of government intrusion, excessive paperwork and malpractice fears as the "good old days". Even though I and most of my predecessors have failed in stimulating so many of these physicians, we must keep trying. Thank you for letting me try. Please give Dr. Reynolds your full backing and help this coming year.

Respectfully submitted,

M. George Thompson, DO
Councilor at Large

The Reference Committee reviewed the report of the Councilor at Large and recommended it be accepted as submitted.

REPORT OF THE CHIEF EXECUTIVE OFFICER

In my last report, I stated that many exciting things were happening in health care. I should have added, "You ain't seen nothing yet!"

It takes a year like the last to understand how important it is to communicate with the members. With the ever increasing momentum of health care reform, comes a tremendous number of questions and concerns, and believe me, you weren't shy about asking some pretty tough questions this past year. Dr. Tom Krafka and I visited all the district medical societies this past year and some more than once. We appreciated your input and believe that it has been invaluable in helping us respond to the changes that have occurred and are lingering on the horizon.

The Clinton plan has been submitted and by all standards, it is probably the most complicated and comprehensive document submitted to Congress. Almost all proposals submitted seem to create as many questions as the problems they purport to solve.

In the confusion, very little consensus has been built; however, the AMA has identified five items necessary for their support of health care reform:

1. health care coverage for everybody,
2. doctor choice must remain with the patients,
3. medical decisions must be made by doctors and patients, not bureaucrats in Washington,
4. tort reform must be meaningful,
5. quality of care must not be compromised.

We, as a State Medical Association, can agree with these premises. Our State Legislature in the past year dealt with approximately sixty pieces of health related legislation, and over three-fourths of those were attached with the health reform label.

What was accomplished is hard to assess. We do know that structurally the state is in a position to accumulate data, create alliances and provide health insurance reform. We were an important part of the Governor's legislative package for health reform. Our involvement in negotiating and shaping health care reform will continue.

We realize that we didn't have answers to all your questions this past year, and we hope that by staying involved with the Department of Health and other governmental agencies, we will at least be able to stay on top and communicate to you as quickly as possible the changes that occur.

Again, I want to compliment all the Medical Association's Commissions for their hard work. It's important, uncompensated time spent for the betterment of medicine. We appreciate your commitment.

We need to give special thanks this year to your president, Tom Krafska, for his commitment to your Association. Not only did Tom work hard in his presidential capacities, he also represented the South Dakota Medical Association on the Governor's Health Commission. His leadership has been vital to the understanding and education of lay people regarding the role of medicine and its delivery system. We hope he can continue in that same capacity on the new advisory council. A special salute goes to Tom and his lovely wife Mollie-O for their many sacrifices on behalf of the medical family.

In a year that has been filled with many options and challenges, it is sometimes easy to lose sight of our initial objectives. And certainly there is no finer objective than the enhancement of quality medical care for all South Dakotans.

Respectfully submitted,

Robert D. Johnson
Chief Executive Officer

The Reference Committee reviewed the report of the Chief Executive Officer and recommended it be accepted as submitted.

REPORT OF THE FIRST DISTRICT COUNCILOR

Except for the usual summer recess, First District meetings were held the first Wednesday evening of each month. Each meeting consisted of dinner with the Alliance, a business meeting, and scientific presentation. Most were guest speakers generously sponsored by our beleaguered friends in the pharmaceutical industry.

In October Hari Kannan, MD, psychiatrist, presented a most timely and cogent discussion of depression.

Dean Krogman visited our district in November and asked for suggestions to outline a state-wide consensus on the potential healthcare reform.

The annual Christmas party was held in December at the home of Dr. and Mrs. Al Janusz and was attended by fifty-two physicians and spouses.

In February we were visited by state president, Dr. Tom Krafska and Chief Executive Officer Bob Johnson and were unusually honored by the presence of their spouses. Dr.

Dehra Dees, PhD Pharmacology, presented an overview of hospital use of H-Z drugs. We are fortunate to have a person of her caliber as a consultant for our hospital staff.

Dr. Michael Holte succeeded Dr. Alex Falk as president and proposed that we utilize our district meeting to the fullest as a forum for congeniality and marshalling our resources for dealing with myriad potential changes in health care. Others elected were Dr. Winston Odland, Secretary-Treasurer; Dr. John Vidoloff, nominating committee; Dr. J. A. Eckrich, Dr. John Vidoloff, Dr. Michael Holte and Dr. Joe Chang, delegates; Dr. William Taylor, and Dr. Winston Odland, alternate delegates, Dr. Paul Eckrich and Dr. James Hovland, councilors, and Dr. Reid Holkesvik, alternate councilor.

April featured a learned discussion of treatment of seizure disorders by Dr. John Gates, Director of Adult Services for the Minnesota Epilepsy Group sponsored by Wallace Laboratories.

We mourn the loss of our friend and colleague, Dr. Robert C. McGee, who passed away in Arizona in March and also Jane Redmond, wife of Dr. Warren Redmond.

As always, our loyal Alliance was busy and active under co-presidents Mary Vidoloff and Lorraine Steele. District physicians were recognized on March 30, Doctor's Day. The Alliance served dessert and coffee during the afternoon and early evening in the doctor's lounge at St. Luke's Midland Regional Medical Center. Approximately \$800 in proceeds from the eighth annual gourmet brownie booth at the Aberdeen Winterfest were donated to local charities.

AMA-ERF chairman, Marie Hovland, collected \$4,835.00 from the Christmas Sharing Card and memorials. Majority of funds are designated for the USD School of Medicine.

Respectfully submitted,

James I. Hovland, MD
First District Councilor

The Reference Committee reviewed the report of the First District Councilor and recommended it be accepted as submitted.

REPORT OF THE SECOND DISTRICT COUNCILOR

The Watertown District Medical Society holds monthly meetings from September through May during the year. Our meetings are related to socioeconomic topics which are of concern to our district and to medicine in general.

The September meeting is a social meeting with our wives and is devoted to reorganization of activities of the district and the alliance for the upcoming year.

In October we met for our usual monthly meeting. Among the topics discussed was the letter from the governor congratulating the district for its participation in the PRIME project with Medicaid. The program which followed was an update on the fourth scope of work by the PRO which was presented by Dr. Gerald Tracy, Medical Director for the South Dakota Foundation for Medical Care.

The November meeting was highlighted by the presence of the legislators from our district, of which seven were in attendance. Each of these legislators gave a short presentation of topics they expected to encounter within the upcoming legislative session and discussion with membership followed as to our views on some of these programs. Another highlight of this meeting was a presentation by Donna Keller from the South Dakota Department of Health regarding the pilot project and PRIME project in which the

Watertown District Medical Society is participating. Most of the discussion still revolved around the problems encountered with emergency room patients, and she told us that work on this potential problem was ongoing.

The December, 1993 meeting was election of officers. The Nominating Committee presented its slate of officers including Dr. Ken Peterson, President; Dr. Steve Feeney, Vice President; Dr. Gerald Tracy, Secretary; Dr. Steve Feeney, 3 year Delegate; Dr. Ramona Peshek, Alternate Delegate.

Presentation was made regarding the South Dakota Health Information System. Update on the Medicaid PRIME project was given by Dr. Rogotzke who indicated that the limited information at this point in time revealed a decreased utilization in the emergency room by Medicaid patients.

The January, 1994 meeting was influenced by the weather, and our expected speaker was unavailable because of a weather problem.

In February, 1994, our meeting was highlighted by the presence of Dr. Robert Rietz of Brookings, who gave a presentation on the changes that health care is undergoing.

The March, 1994 meeting was highlighted by the visit of the president of the South Dakota State Medical Association, Dr. Tom Krafka, who gave a synopsis of the legislative program ensuing in the South Dakota Legislature as well as a perspective from the national scene. Bob Johnson accompanied Dr. Krafka and made some comments which were appreciated by the physicians in attendance.

We will continue our monthly meetings for the ensuing two months. We expect to have a conclusive update regarding the South Dakota PRIME project in our district with information being submitted to the District at the April meeting for the first six to nine months of the project. A preliminary report will be made at the Council Meeting on April 8, 1994.

Respectfully submitted,

James C. Larson, MD
Second District Councilor

The Reference Committee reviewed the report of the Second District Councilor and recommended it be accepted as submitted.

REPORT OF THE THIRD DISTRICT COUNCILORS

The Third District continued its regular meetings during 1993. The officers for the Third District Medical Society included Secretary/Treasurer, Dr. Adel Hassan; Vice President, Dr. Merritt Warren; and President, Dr. Gary Bruning. The councilors for this district included Dr. Richard Holm and, until his death in August, Dr. Curtis Wait. His position was then filled by Dr. Richard Wake.

In February Dr. George Thompson presented Dr. Rick Holm a nine year service award for commission membership and Dr. Thompson discussed legislation. In addition, Marilyn Harms, Dr. Richard Wake and Rod King presented a slide show on a medical mission to Jamaica.

In April Dr. Karla Murphy presented information on cancer markers for diagnostic conditions.

In June Dr. Steve Gutnik presented information about heliobacter and peptic ulcer disease. In addition, Dr. Richard Belatti was accepted as a member of the Third District Medical Society. The medical society contributed

\$1,000 to a memorial in honor of the late Governor Mickelson.

In August Dr. Tesch and Dr. Holm agreed to serve as Doctors of the Day in Pierre on February 14. It was determined that the district dues would remain at \$20. The medical society expressed a great deal of sorrow over the death of Dr. Curtis Wait and expressed our condolences to his family.

In October Dean Krogman presented an update on current health care reform in the state and in the nation. In addition, Dr. Robert Rietz presented information about a mailing that he was sending to physicians in the state to survey attitudes about health care reform. The results of this mailing were to be published in the South Dakota Journal in December.

In December our meeting was held in Flandreau and the new officers were selected for the year to include Secretary/Treasurer, Dr. Dan Cecil; Vice President, Dr. Adel Hassan, and President, Dr. Merritt Warren.

Respectfully submitted,

Richard P. Holm, MD
Richard A. Wake, MD
Third District Councilors

The Reference Committee reviewed the report of the Third District Councilors and recommended it be accepted as submitted.

REPORT OF THE FOURTH DISTRICT COUNCILORS

The Fourth District Medical Society held its annual meeting January 12, 1994.

The business portion of the meeting was devoted to a general discussion of the impact of upcoming governmental legislation locally and nationally. Officers elected include District President, Dr. Noel Chicoine; Vice President, Dr. Bernie Linn; Secretary, Dr. Eldon Becker. Delegates elected are Drs. Ken Bartholomew and B. O. Lindbloom. Alternates are Drs. Eldon Becker and Bernie Linn. Councilors remain Drs. Phil Hoffsten and Tom Huber.

The Fourth District Medical Society, in conjunction with the Continuing Medical Education Department of St. Mary's Hospital, sponsored the following CME programs in 1993: Geriatric Assessment, Evaluation and Management by Dr. D. E. Sandvik in March; Myocardial Infarction and Clinical Update by Dr. Will Hurley in April; Diastolic and Systolic Heart Failure by Dr. D. B. Chapman in May; Cardiac Rehabilitation for Post Coronary by Dr. K. J. Vaska in September; the Role of Laboratory in the Diagnosis of Autoimmune Disease by Dr. D. W. Ohrt in November, and Nonsteroidal Anti-inflammatory Drug Therapy by Dr. Cindy Weaver in November.

Membership of the Fourth District Medical Society has increased by two physicians since the last report. Dr. Kelly Krizan came on board as a radiologist in 1992, and Dr. Jim Minder came on in 1993 in OB/GYN. The staff at St. Mary's Hospital now numbers twenty active members.

Respectfully submitted,

Thomas Huber, MD
Philip Hoffsten, MD
Fourth District Councilors

The Reference Committee reviewed the report of the Fourth District Councilors and recommended it be accepted as submitted.

REPORT OF THE FIFTH DISTRICT COUNCILOR

Fifth District Society meetings were held throughout 1993-94. Several medical education programs were given. In March the society was visited by Dr. Thomas Krafka, President of the South Dakota Medical Association, and Robert Johnson, Chief Executive Officer.

New officers were elected for 1994-95: President, Dr. Shrirang Lele; Vice President, Dr. Hiroo Kapur; Secretary/Treasurer, Dr. Nathan Loewen. The two delegates for the annual meeting will be Dr. Carole Buchholz and Dr. Jeff Hanson. Dr. Howard Saylor was recommended for the Nominating Committee.

Respectfully submitted,

Curt Buchholz, MD
Fifth District Councilor

The Reference Committee reviewed the report of the Fifth District Councilor and recommended it be accepted as submitted.

REPORT OF THE SIXTH DISTRICT COUNCILORS

The Sixth District Medical Society met several times during the past year. Speakers and topics included:

1. Barb Lucia from the American Red Cross, St. Paul, Minnesota, "tissue donations"
2. Bob Johnson and Dean Krogman, DakotaCare and Thomas Krafka, MD, President, South Dakota State Medical Association "managed care programs"
3. Kenneth Rogotzke, DO, Watertown, SD "otitis media and chronic sinusitis"
4. Richard Wright, MD, Louisville, KY "non cardiac chest pain"

New members accepted into the district include Theodore Matheny, MD of Chamberlain. Dr. Charles Monson of Parkston and Dr. Jack Berry of Mitchell were elected to honorary life membership.

District officers for 1993-94 include Ronald Anderson, MD, president; Jerome Howe, MD, vice president and Douglas Holum, MD, secretary/treasurer.

Respectfully submitted,

Lucio Margallo, MD
Walter Baas, MD
Sixth District Councilors

The Reference Committee reviewed the report of the Sixth District Councilors and recommended it be accepted as submitted.

REPORT OF THE SEVENTH DISTRICT COUNCILORS

The Seventh District Medical Society meets the first Tuesday of each month starting at 6:30 p.m. from September through May at the Westward Ho Country Club in Sioux Falls, South Dakota. All South Dakota State Medical Association members are welcome at the meetings as guests. The current officers of the Seventh District Medical Society are: Daniel Blue, MD, President; Karla Murphy, MD, Vice President; Angelina Trujillo, MD, Secretary; and Laura J. R. Larsen, MD, Treasurer. As with several other District Medical Societies multiple meetings centered around the current health care proposals and these will not be specifically listed.

Dr. Robert Wah, President of the Young Physicians Section of the AMA, spoke to us at our April 1994 meeting. His

presentation will be published in the South Dakota Journal of Medicine. At our February 1994 meeting, Dr. Tom Kralka presented a program with reports on the AMA meeting in December 1993 and an overview of the legislative agenda for the year. Also, Dr. Jerome Freeman was given a plaque in recognition of his service to the medical society.

An annual meeting with the legislators occurred in December 1993. A brief presentation and introduction was given by each legislator who was able to attend our meeting. The annual Medical School address was presented by Dr. Robert Talley in November 1993 with a copy thereof being sent to members of the State Medical Association.

Area hospital administrators presented a program in October 1993, specifically including health care reform and difficulty with Medicaid budget shortfalls. It should be noted that in our May 1993 society meeting the Seventh District voted to contribute \$5000 to the Medical School Memorial Scholarship in honor of the late Governor George Mickelson.

Respectfully submitted,

K. Gene Koob, MD
Jeffrey Hagen, MD
Walter Carlson, MD
Guy Tam, MD
Lowell Hyland, MD
C. Roger Stoltz, MD
Robert Raszkowski, MD
Daniel Kennelly, MD
Loren Tschetter, MD
Seventh District Councilors

The Reference Committee reviewed the report of the Seventh District Councilors and recommended it be accepted as submitted.

REPORT OF THE EIGHTH DISTRICT COUNCILOR

The Eighth District Medical Society of the South Dakota State Medical Association has met twice during the year 1993-94. Customary business was conducted and several new members were approved into District Eight during the year. New members include: Dr. David Withrow, Yankton; Dr. David Barnes, Yankton; Dr. Scott Hiltunen, Yankton; Dr. Tim Ridgway, Yankton.

Dr. Duane Reaney, Yankton, retired from the active practice of medicine in July, 1993. He was nominated and unanimously approved for honorary life membership in the South Dakota Medical Association. Dr. John Sternquist, Yankton, was presented a plaque in recognition of nine years service on the Professional Liability Commission for the Medical Association.

District Eight was represented by four physicians that participated in the "Doctor of the Day" program during the 1994 legislative session in Pierre. Three members of District Eight were nominated to participate in a statewide recognition program: Distinguished Service Award, Dr. Tom Gilmore, Yankton; Community Service Award, Dr. Willis Stanage, Yankton; Media Award, Jolene Buehrer, Yankton.

New Officers were elected for 1994-95. President, Dr. James Wiggs; Vice President, Dr. Jim Hof; Secretary/Treasurer, Dr. Bruce Mannes. Dr. Larry Meyer was nominated for another three year term as District Eight Councilor along with Dr. Jem Hof for the position of alternate. District Eight is in the process of selecting delegates/alternates for the 1994 meeting in Rapid City.

South Dakota Foundation for Medical Care

BLOOD TRANSFUSION PRACTICES

Recent scientific evidence suggests that refining current blood transfusion practices may decrease the use of blood products with no negative impact on quality of patient care, thereby conserving the national blood supply.¹

POSSIBLE IMPROVEMENT PROJECTS

Transfusion criteria

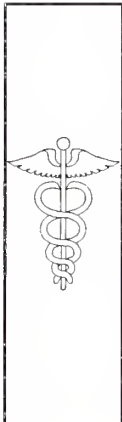
-transient anemia

-elective surgical procedures

Wasted blood products

Type/Xmatch ratio

Single Unit Transfusion Issues



SDFMC would like to begin these projects by October, 1994. Interested physician are invited to contact
Bruce Lushbough, M.D.

SDFMC would like to thank the following physicians for their help in the initial planning of these projects:

Keith Anderson, M.D.
Michael Bess, M.D.

Henry Travers, M.D.
Gerald Tracy, M.D.
SDFMC Medical Director

Timothy Frost, M.D.
Stephen Gehring, M.D.

¹ Soumerai SD, et al. A controlled trial of educational outreach to improve blood transfusion practice. JAMA 1993;270:961-6.

Dr. Thomas Krafka, president of the South Dakota Medical Association, addressed District Eight on the topic of health care reform both nationally and in South Dakota. Another program of interest was presented by two physicians from Canada. Drs. Barrie and Sherrill Purves outlined the Canadian health care system and compared it to the system currently in use in the United States.

This concludes the report for the Eighth District Medical Society.

Respectfully submitted,
Bruce Mannes, MD
Eighth District Councilor

The Reference Committee reviewed the report of the Eighth District Councilor and recommended it be accepted as submitted.

REPORT OF THE NINTH DISTRICT COUNCILOR

The Ninth District started its yearly activities following the SDSMA meeting in Sioux Falls with a social event at the Black Hills Playhouse. It was well attended and all present appreciated the tranquility and beauty of the Black Hills. In September our meeting was held at the School of Mines where we met with spouses. We viewed an exhibit from the Berlin Wall. A distinct irony was felt by the members as Communism's decline in the East seems matched by Socialism's rise in the West. In October we met with the legislators to see if the bastions could be fortified. This district has made quite an effort at keeping in touch with the legislators and we feel that some good alliances have been formed.

The Medical Alliance continues to be quite active and inspirational to us all.

Programming for the year included a mixture of professional, political, and personal subjects. These included "Physician Burnout" and "Medical Marriages". Most recently we heard a talk by a director of risk management and an attorney on workers' compensation. It is a subject which has been before the Council and is an ongoing concern to many of us.

We were pleased to accept a large number of new members this year. At the same time, we regret the passing of John Slingsby, M.D., William Perry, M.D., John Bailey, M.D., Richard Stewart, M.D., and Jaroslav Zanka, M.D.

The Ninth District continues to offer evermore incisive and courageous leadership to the state in these times of change.

Respectfully submitted,
R. P. Renka, MD
Ninth District Councilor

The Reference Committee reviewed the report of the Ninth District Councilor and recommended it be accepted as submitted.

REPORT OF THE TENTH DISTRICT COUNCILOR

The Tenth District held its annual meeting on January 11, 1994 in Gregory, South Dakota. The election of officers was held and Robert Stiehl, MD, was elected president, and Edwin Sweet, MD, vice president. Council members will be Richard Kafka, MD and Gregg Tobin, MD with R. G. Nemer, MD elected as delegate and Tony Berg, MD as alternate delegate.

Dr. Tom Krafka and Mr. Bob Johnson attended the meeting and provided a program consisting of discussion on current legislative issues at the state level and the South Dakota Medical Association's position. Dr. Krafka also provided a discussion concerning national health care reform. District members were encouraged to remain aware of legislative issues and continue to be in contact with local legislators. Dr. Jeff Pinter of Winner, South Dakota was welcomed as a new member within the Tenth District. Additional business included a discussion of the Doctor of the Day Program. Members were encouraged to participate.

Respectfully submitted,
Richard L. Kafka, MD
Tenth District Councilor

The Reference Committee reviewed the report of the Tenth District Councilor and recommended it be accepted as submitted.

REPORT OF THE ELEVENTH DISTRICT COUNCILOR

Officers for 1994 continue as last year:

President Ben Henderson, DO
Vice President James Collins, MD
Secretary L. M. Linde, MD

The district met on January 10, with State Association President, Thomas Krafka, MD, and Bob Johnson from the State Association office.

Respectfully submitted,
Ben Henderson, DO
Eleventh District Councilor

The Reference Committee reviewed the report of the Eleventh District Councilor and recommended it be accepted as submitted.

REPORT OF THE TWELFTH DISTRICT COUNCILOR

The Whetstone Valley District Medical Association had its customary meetings in the 1993-94 calendar year.

Officers included:
President Alan Bloom, MD, Webster
Vice President Lawrence Nelson, MD, Webster
Secretary Kevin Bjordahl, MD, Webster
Annual Meeting Delegate Kevin Bjordahl, MD, Webster
Second Councilor Alan Bloom, MD, Webster

The next meeting is scheduled in Webster, April 20, 1994.

Respectfully submitted,
Alan Bloom, MD
Twelfth District Councilor

The Reference Committee reviewed the report of the Twelfth District Councilor and recommended it be accepted as submitted.

REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

The meeting of the Commission on Legislation was held on November 4, 1993, at 12:30 p.m., and was called to order by John Barlow, MD. The following was accomplished at this meeting.

1. A motion was passed that the SDSMA introduce and sponsor safety restraint legislation.

2. The subject of proper selection and substitution for medical prescriptions was discussed. No action was taken.
3. A motion to support previous council action that physicians should be personally involved in the physical examination and certification of student athletes was passed.
4. A motion was passed to recommend that the State Medical Association sponsor an amendment to the current statute on limitation of damages for professional liability to include corporations and also sponsor legislation placing a \$250,000 limit on noneconomic damages, allowing one litigant per case.
5. The issue of scope of practice for an optometrist was thoroughly discussed.
6. A motion was passed to draft legislation addressing the issue of exemption from physician patient privilege when imminent bodily injury or death is threatened.
7. The subject of driver's license/epilepsy was discussed. It was felt that more information was needed for definitive action.
8. A motion was passed to support a request from Healthnet for legislation which would add an excise tax on all tobacco products and would require licensing of cigarette retailers and vending machines.
9. A motion was passed to recommend legislation concerning the expanded roles for physician assistants and nurse practitioners.
10. A motion was passed to recommend legislation to be drafted to allow willing providers in South Dakota, keeping in mind the commission's concerns as it relates to equally qualified professional health care providers and allied health care personnel. It was felt that this legislation could be introduced and sponsored if appropriate.
11. Information on Maine legislation which would allow statutory immunity to physicians who practice within practice parameters was discussed. A motion was passed that the articles that were given to the commission be distributed to the appropriate specialty societies for review and recommendation.
12. The commission discussed the statute of limitations for crimes against children. No action was taken at this time.
13. A motion was passed that SDSMA introduce legislation allowing physicians to prescribe contraceptives to minors without parental consent, pointing out inconsistencies between federal regulations and state law.
14. A motion was passed that SDSMA introduce and sponsor legislation relating to the practice of economic credentialing, provided the Hospital Association concurs.
15. The commission considered draft legislation denying tax exemptions for certain health care facilities. No action was taken.
16. Draft legislation relating to workers' compensation provided by Commerce and Industry was reviewed. No action was taken.
17. A bill authorizing licensure of radiologic technologists was received. A motion was passed to oppose this bill. Further action was taken to commend the radiologic

technologists for their efforts to improve the quality of care noting SDSMA's concerns about the licensure law and offering assistance in addressing the issue of quality care.

18. The commission received a letter regarding physician witnesses in prescription fraud cases. This was accepted for information. No action was taken.

19. The commission discussed the anticipated short fall in funding for the Medicaid program in South Dakota.

The commission met in a conference call on Wednesday, December 22, 1993. The commission discussed at length the draft versions of several bills received from the State Health Department as follows:

1. An act to authorize the Board of Medical and Osteopathic Examiners to establish medical practice parameters.
2. An act to require health care providers who refer patients to disclose any financial interest they may have in the entity to which the patient is referred.
3. An act to allow the purchase of health insurance through voluntary purchase and cooperatives and to provide rule making authority.
4. An act to require disclosure of medical care costs.
5. An act to require certain health care providers to report capital expenditures.
6. An act to prohibit the filing of false, fraudulent claim forms.

The commission was concerned about several aspects of these bills and suggested that the Association representatives at their meeting with the Health Department on December 28 try to influence modification of these bills.

The commission also considered a bill introduced by the State Department of Vocational Rehabilitation which would allow paraplegics and quadriplegics or their assistants to change their dressing and insert suppositories and catheters. Commission members felt that such legislation should be supported.

Respectfully submitted,

John F. Barlow, MD, Chairman
Commission on Legislation
and Governmental Relations

The Reference Committee reviewed the report of the Commission on Legislation and Governmental Relations and recommended acceptance of the report as submitted.

Medical Liability Specialists



Howalt-McDowell Insurance, Inc.

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Sioux Falls, South Dakota 57102
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Insuring Healthcare Personnel and Their Facilities

REPORT OF THE COMMISSION ON MEDICAL SERVICE

The Commission on Medical Service met once on October 21, 1993. Five physician members were in attendance along with guests Dr. William Fuller, Dr. Walter Carlson and SDSMA staff.

Following discussion with Dr. Fuller representing the South Dakota Psychiatric Association, the following policy statement was recommended to the SDSMA Council for adoption: Third party payors should provide coverage for substance abuse and other mental illnesses on the same basis as for any medical illness. Utilization of these services should not be arbitrarily limited by monetary limits, but appropriate utilization be monitored by peer review processes as in any other medical illness. The commission recommended that this statement be distributed to the Health Insurance Association of America, Blue Cross/Blue Shield, DakotaCare, all major health insurers in South Dakota, the Governor's office, the Insurance Commissioner, the Health Care Task Force and mental health organizations in South Dakota. This recommendation and action was subsequently approved at the November 1993 SDSMA Council meeting.

The commission then met with members of the South Dakota Industry and Commerce Association and Dr. Carlson regarding issues about workers' compensation. Discussions occurred regarding educating physicians about issues and new treatment options for workers' compensation cases. It was felt that educational options could include articles pertaining to workers' compensation published in the South Dakota Journal of Medicine and that parts of future state, district, and specialty society meetings could present topics pertaining to workers' compensation issues for their members. In addition, it was discussed that while pre-employment physical exams are not allowed by law, it is recommended, that for higher risk businesses and industries, after an employee has been hired, that he/she have a physical exam so there will be baseline data for any future reported injuries. It was also discussed that Industry and Commerce will submit draft legislation to the State Medical Association which will be submitted to the Commission on Legislation for consideration and possible endorsement by SDSMA during the 1994 legislative session.

The commission considered a request from the Physicians' HELP Committee that the Association's Blue Cross/Blue Shield and DakotaCare group plans provide coverage for care provided at physician specific treatment centers for impaired physicians. Inasmuch as information had not been received by the executive office concerning the additional premium cost for such coverage, this matter was deferred to the next commission meeting.

The commission also reviewed complaints received from physicians throughout the state regarding insurance company reimbursement. There was no persistent pattern of problems noticed in the complaints, but a wide variation of individual problems. This will be further monitored, but no action taken unless a pattern of problems develops.

Respectfully submitted,

Robert W. Harms, MD, Chairman
Commission on Medical Service

The Reference Committee reviewed the report of the Commission on Medical Service and recommended acceptance of the report as submitted.

REPORT OF THE COMMISSION ON SCIENTIFIC MEDICINE

The Commission on Scientific Medicine explored the subject of regulation of cosmetology services and tattoo parlors for the state and region. We explored legal requirements for such practices, licensing requirements for such establishments, and risks for the spread of disease of such practices. Our conclusions were that the risk of transmission of disease through cosmetology practices is extremely low, and the state regulation of these businesses was felt to be adequate, and no further concern was raised over the need to explore the risk of disease in cosmetology-type businesses.

With regard to tattoo parlors, an even more detailed study was undertaken. Comparisons of the practices in the state of South Dakota was made with those in the surrounding states. It was concluded that the current rules and laws regarding licensing these establishments were adequate to offset any risk of transmissible disease. The Commission, therefore, recommended no need for any further action by the Commission or the State Medical Society.

The Commission spent a great deal of time on the subject of the State Medical Society meeting and its evaluation. It was felt that a simplified form would facilitate more feedback from the attendees of the meeting to the Planning Committee, i.e. the Commission on Scientific Medicine. A new form was thereby devised. It was further recommended that the evaluation forms be connected to the verification of continuing medical education credit, and this will be accomplished first at our next State Medical Association meeting. This latter strategy was designed to enhance the number of individuals filling out the critique of the meeting and providing feedback for future meetings.

Finally, the specific subject matter of the meeting was explored, and concurrent sessions with individuals from the state presenting new technology in their practices was felt to be well-received previously and will be accomplished this time. One whole section of newer technology will be provided on the subject of women's health. In addition, at first some planning was undertaken for presentation of more material on use of newer electronic information systems in medical practice, but it was changed to focus on the subject of managed care. A national speaker was chosen to share the facts and expand the knowledge of the practitioners in the state of South Dakota in the area of managed care.

Respectfully submitted,

Edward Zawada, MD, Chairman
Commission on Scientific Medicine

The Reference Committee reviewed the report of the Commission on Scientific Medicine and recommended acceptance of the report as submitted.

REPORT OF THE COMMISSION ON INTERNAL AFFAIRS, COMMUNICATIONS AND LIAISON

The Commission met on October 29, 1993. The Commission reviewed the Doctor of the Day Program in the 1993 legislative session. The Commission made the following recommendations:

1. to purchase a stethoscope, blood pressure cuff and wall-mounted ophthalmoscope/otoscope for the Doctor of the Day office,
2. a box of gloves and supply of handwipes be available for the Doctor of the Day,

3. consideration be given to contact North Central Heart for the possibility of displaying an automatic defibrillator,
4. a Spart Kit be made available in the Doctor of the Day office,
5. the Pierre physicians receive a calendar of the doctors who are scheduled to be serving as Doctor of the Day.

The next order of business covered the public relations brochures. There were several requests from businesses to the South Dakota State Medical Association to endorse their group. These endorsements were declined unless there is sufficient request from the members of the South Dakota State Medical Association wanting that sort of activity. There was discussion about a mini-internship program that has been developed by the AMA and Upjohn which involves inviting local legislators and community and business leaders to follow an assigned physician for one to two days to acquaint them with important issues in health care. The Commission thought this was a good idea and probably should be investigated further. Individual districts may want to initiate this.

A request was made by the Black Hills District Medical Society to lend its Seal to be used on a MADD brochure. After reviewing the brochure we thought this dealt with a legal aspect of drunken driving rather than dealing with medical issues, and it was the decision of the Commission not to recommend that the Seal be lent to this brochure.

A plan was discussed for the 1994 Doctor of the Day program. Dr. Martin Christensen of Mitchell volunteered to provide the samples for the office, and otherwise the other plans for the Doctor of the Day program remain the same.

Respectfully submitted,

Kenneth B. Peterson, MD, Chairman
Commission on Internal Affairs,
Communications and Liaison

The Reference Committee reviewed the report of the Commission on Internal Affairs, Communications and Liaison and recommended acceptance of the report as submitted.

EXPENSES

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
Salaries	\$210,630.00	\$250,000.00
Social Security	15,166.00	16,000.00
Legal & Audit	30,000.00	27,000.00
Telephone & Lease Payments	6,000.00	6,000.00
Office Supplies	10,000.00	12,000.00
Dues & Subscriptions	1,000.00	1,000.00
Physicians' Travel	17,000.00	19,000.00
Annual Meeting	25,000.00	25,000.00
Public Relations	40,000.00	15,000.00
Journal Subsidy	4,000.00	4,000.00
Postage	12,000.00	10,000.00
Miscellaneous	100.00	500.00
Legislation	20,000.00	12,000.00
Staff Travel	15,000.00	17,000.00
Insurance	4,000.00	4,000.00
Retirement/Fringe Benefits	65,000.00	70,000.00
Car Operation & Maintenance	2,500.00	2,500.00
Alliance Allocation	4,500.00	4,500.00
Unemployment Tax	750.00	750.00
Continuing Medical Education	1,500.00	1,500.00
Income Tax	500.00	500.00
Medical Student Support	2,000.00	3,500.00
Sales Tax	0	250.00
Printing & Reproduction	0	18,000.00
Deferred Comp. Exp.	0	15,000.00
	<u>\$486,646.00</u>	<u>\$535,000.00</u>
Reserve	<u>38,619</u>	<u>8,500.00</u>
	<u>\$525,265.00</u>	<u>\$543,500.00</u>

JOURNAL OF MEDICINE

INCOME

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
Advertising	\$27,500.00	\$30,000.00
Subscriptions	1,300.00	1,300.00
Journal Subsidy	4,000.00	4,000.00
Miscellaneous	<u>400.00</u>	<u>400.00</u>
	<u>\$33,200.00</u>	<u>\$35,700.00</u>

EXPENSES

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
Salaries	\$ 2,200.00	\$ 2,200.00
Legal & Audit	0	0
Social Security	125.00	125.00
Telephone	150.00	150.00
Postage	5,500.00	5,000.00
Office Supplies & Printing	25,000.00	27,500.00
Travel	<u>0</u>	<u>500.00</u>
	<u>\$32,975.00</u>	<u>\$35,475.00</u>
Reserve	<u>225.00</u>	<u>225.00</u>
	<u>\$33,200.00</u>	<u>\$35,700.00</u>

1994-1995 BUDGET

SOUTH DAKOTA STATE MEDICAL ASSOCIATION

GENERAL FUND

INCOME

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
State Dues	\$320,000.00	\$345,000.00
Annual Meeting	40,000.00	35,000.00
Refunds & Misc.	15,000.00	20,000.00
Car Reimbursement	2,000.00	1,000.00
Continuing Medical Education	2,000.00	2,500.00
Salary Reimbursement	96,765.00	100,000.00
Other Programs		
Equip. Replacement Fund	18,000.00	1,000.00
Med. Student & Res. Dues	1,500.00	1,000.00
Interest	8,000.00	6,000.00
Accounting Service Income	2,000.00	2,000.00
Building Fund Transfer	<u>20,000.00</u>	<u>30,000.00</u>
	<u>\$525,265.00</u>	<u>\$543,500.00</u>

BUILDING FUND

INCOME

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
Bzica Building	\$ 37,000.00	\$ 37,750.00
DakotaCare Rent	114,000.00	119,000.00
Foundation Rent	53,000.00	55,650.00
Board of Exam. Rent	12,860.00	13,503.00
Miscellaneous	<u>100.00</u>	<u>100.00</u>
	\$216,960.00	\$226,003.00

EXPENSES

ITEM	BUDGETED 1993-94	BUDGETED 1994-95
Property Taxes	\$24,000.00	\$30,000.00
Salaries	29,000.00	28,000.00
Social Security	3,300.00	3,200.00
Legal & Audit	4,000.00	4,000.00
Utilities	20,000.00	17,000.00
Maintenance & Supplies	28,000.00	26,000.00
Insurance	5,000.00	5,000.00
Mortgage Payments	78,000.00	78,000.00
Transfer to General Fund	<u>20,000.00</u>	<u>30,000.00</u>
	\$211,300.00	\$221,200.00
Reserve and accrual for		
Income Tax	<u>5,660.00</u>	<u>4,803.00</u>
	\$216,960.00	\$226,003.00

The Reference Committee reviewed the proposed budget for fiscal year 1994-95 and recommended acceptance of the budget as submitted.

REPORT OF THE CONTINUING MEDICAL EDUCATION COMMISSION

During the past year the CME Commission met at the time of the Annual Meeting and again in September by audio teleconference. At the Second House of Delegates meeting on June 12, 1993, which followed the CME Commission, the bylaws were amended to:

1. Create a CME Commission from the previous CME Committee
2. Delete the every three year random CME audit of 5% of the membership.

Site surveys were conducted during the summer and early fall of three accredited sponsors. Central Plains Clinic, Fort Meade VA Hospital and the Yankton CME Consortium were reaccredited. During the year Charter Hospital withdrew as a sponsor, and Prairie Lakes Hospital completed their initial application for accreditation and should be site surveyed in the near future.

The CME Calendar continues to be published on a monthly basis in the South Dakota Journal of Medicine, thanks to the efforts of the CME secretary. Facilities planning CME activities may wish to see what other activities are planned at the same time by checking the CME Clearing House Calendar which is also maintained by the CME secretary.

Nationally, commercial support and AMA-PRA Category 2 credit continue to be intensively discussed. The ACCME has begun a schedule by which to formally review its Essentials and Standards for current applicability. Comments on Essentials 1 (Mission Statement) and 6 (Management) are

being solicited until the end of June. Anyone with input is asked to call or write the CME secretary at the SDSMA Office or contact the Chair of the CME Commission.

Respectfully submitted,

Robert R. Raszowski, MD, Ph.D., Chairman
Continuing Medical Education Commission

The Reference Committee reviewed the report of the Continuing Medical Education Committee and recommended the report be accepted as submitted.

REPORT OF THE BUDGET AND AUDIT COMMITTEE

The Budget and Audit Committee met on February 2, 1994, to review the proposed budget for 1994-95. Some of the changes that were made in the budget and approved for the upcoming year included an increase in the budget allocation for medical student travel from \$1500 to \$2000 for the next year. There was concern about the ability for the journal to maintain its financial income because of significant loss in national advertising coming from the pharmaceutical industry. Some of the major changes in the budget per se include increase in salaries - this was most directly influenced by a change in the public relations. The public relations has been decreased by \$25,000 and that money ended up going directly into an increase in salary for the hiring of Dean Krogman. Cost of living raises were given.

Respectfully submitted,

Kenneth B. Peterson, MD, Chairman
Budget and Audit Committee

The Reference Committee reviewed the report of the Budget and Audit Committee and recommended the report be accepted as submitted.

REPORT OF THE SHARECARE COMMITTEE

During 1993, there were no meetings held by the ShareCare Committee although the committee did review and approve several special consideration applications. The program continues to function very well and the South Dakota State Medical Association office has issued 955 cards. This is an increase over last year and could be due in part to the closing of the South Dakota Association Senior Centers in Pierre. South Dakota currently has 627 participating physicians in this program.

If anyone has recommendations for the ShareCare Program, please feel free to contact any of the committee members.

Respectfully submitted,

Tony L. Berg, MD, FAFAP, Chairman
ShareCare Committee

The Reference Committee reviewed the report of the ShareCare Committee and recommended the report be accepted as submitted.

REPORT OF THE GRIEVANCE COMMISSION

The Grievance Commission met at the time of the annual meeting of the South Dakota State Medical Association with all members present.

The complaints of the previous year were reviewed and were found to have been satisfactorily concluded. There were relatively few complaints this past year and much of the difficulty was with problems in communication and incomplete explanations to patients and misunderstandings by patients. We hope that there has been satisfactory

resolution to both parties involved in these complaints.

As usual, complaints regarding fees are excluded and most of the problems arise due to communication difficulties and also less than optimal outcomes which are frequently outside the control of the physician. It is hoped that we as physicians can give adequate time and comfort in explaining our patients' problems and prognoses. This should go a long way in preventing complaints.

We wish to sincerely thank Jan Anderson and her staff for their excellent help and assistance. I would also personally like to thank all the members of the commission for their conscientious and thoughtful responses in the matters that have been brought before us.

Respectfully submitted,

Frank D. Messner, Chairman
Grievance Commission

The Reference Committee reviewed the report of the Grievance Commission and recommended the report be accepted as submitted.

REPORT OF THE SOUTH DAKOTA POLITICAL ACTION COMMITTEE

As you know, SoDaPAC was formed in the early 70's to help provide an avenue of involvement in the political process. With clarification from Washington, D.C., it is a group comprised only of physicians and spouses. This past year should have highlighted the need for involvement in the local, state, and national levels. Many changes are being talked about and our input at all levels can be meaningful if we choose and get involved.

What happened in the past year? First of all, with all the pressures coming from many different fronts (state, federal government, activist groups, speciality groups, etc.), we didn't panic. We have monitored what is happening around us and have been an active participant in rural health meetings, health commission meetings, labor department meetings, health department legislative meetings, and these efforts have paid off. We have been, and continue to be a resource in all aspects of legislation for the Governor's Health Reform package and it appears as though we will have at least two representatives on the Governor's new Health Commission.

All of this occurred in a non-election year! Because of all the legislation passed that requires rule making authority, we will be busy monitoring these summer committees. Because 1994 is an election year, we will be involved in many legislative races, not to mention the input we hope to have in important leadership positions that will change because of resignations and lost elections.

All in all, I believe we have had a successful year and if nothing else, it should highlight the need for more involvement. Because I strongly believe in what we are doing, I have asked the staff to send a personal request to all doctors to get involved and hope your response has been positive. It is important and I hope you agree with the necessity to get involved.

I'd like to thank the staff and everybody who helped make this year a political success. And thanks in advance for your continual support of SoDaPAC.

Respectfully Submitted,

Richard Porter, MD, Chairman
South Dakota Political Action Committee

The Reference Committee reviewed the report of the South Dakota Political Action Committee and recommended the report be accepted as submitted.

REPORT OF THE BOARD OF DIRECTORS OF THE SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT ASSOCIATION

The annual meeting of the Board of Directors convened on Friday, June 11, 1993 with the following members present: Doctors Robert Giebink, Warren Jones, Bruce Lushbough, T. H. Sattler, Bruce Allen, Howard Saylor and Joseph Hamm. A subcommittee meeting of the Board was held on Wednesday, October 27, 1993. Those attending included Doctors Howard Saylor, T. H. Sattler, Robert Giebink and Bruce Lushbough.

Representatives from the USD School of Medicine met with the Board at the annual meeting and asked the Endowment Association to agree to let the USD Foundation office coordinate and carry out all fund raising activities on behalf of the medical school. Subsequently the Board's subcommittee agreed to allow the USD Foundation to handle all Endowment solicitations for one year. The Board at its annual meeting in June, 1994, will reassess this arrangement and determine how solicitations will be handled in the future.

Dr. Ray Lynn provided information on education and living expenses for first and second year students at USDSM. For South Dakota resident students annual expenses are approximately \$24,600 and for non resident students, expenses are about \$33,200. The average debt incurred by the 1993 graduates was \$59,863, with 9% of the students owing \$100,000 or more. Because of the need for low interest loans the Board allocated \$70,000 for loans at 6% per year for 1993-94. As of December 31, 1993, the Endowment Association has \$370,474.66 out in loans.

Board officers elected for 1993-94 were Dr. T. H. Sattler, president; Dr. Warren Jones, vice president and Dr. Bruce Lushbough, secretary-treasurer.

The subcommittee authorized the executive office to set up an investment plan for the Endowment Association, investing half of the money conservatively and the other half more aggressively. They also adopted guidelines for the Endowment loan and scholarship funds, whereby 80% of the annual accrued interest would be utilized for awards and 20% maintained for continued growth. The Board established the Mickelson Memorial Scholarship fund with \$17,665 received in donations in memory of South Dakota's Governor George Mickelson.

Respectfully submitted,

T. H. Sattler, MD, President
South Dakota Medical School Endowment
Association Board of Directors

The Reference Committee reviewed the report of the Board of Directors of the South Dakota Medical School Endowment Association and recommended acceptance of the report as submitted.

REPORT OF THE PHYSICIANS' HELP COMMITTEE

I have recently assumed the responsibility as Chairman of the Physicians' HELP Committee.

During the first few months I have had an opportunity to meet with the administrative staff, some members of the

Board of Medical and Osteopathic Examiners and several committee members.

The intent of these meetings has been to gain understanding of how this committee has functioned in the past with the hope that it might become a more active and aggressive organization.

It is my hope that we can so structure ourselves as to be the first organization to encounter the impaired physician before he or she becomes entangled in the medical-legal system.

The purpose of this approach would be to assist the impaired physician as early in the course of his problems as possible and to get him or her appropriate care before that individual encounters the system that serves us so well but sometimes is not capable of dealing with him or her in the acute crisis. I would hope that we could reorganize the system so the Physicians' HELP Committee comes into the dilemma early on.

We have been studying other states (Minnesota, Washington, California) and find that their systems function much as I have just described.

You will be hearing more from us as we proceed with this study.

Respectfully submitted,
Donald Frost, MD, Chairman
Physicians' HELP Committee

The Reference Committee reviewed the report of the Physicians' Help Committee and recommended the report be accepted as submitted.

**REPORT OF THE ARCHIVES
AND HISTORY COMMISSION**

The Archives and History Commission has not had a formal meeting. However, we are continuing a project that started last year. That project involves the interviewing of physicians in the state that have retired or might be nearing retirement age. The interview encompasses not only the physician's history but his perspectives on the development of medicine in the state of South Dakota and those that have practiced that art.

Respectfully submitted,
John H. Hoskins, MD, Chairman
Archives and History Commission

The Reference Committee reviewed the report of the Archives and History Commission and recommended the report be accepted as submitted.

REPORT OF THE AIDS TASK FORCE

The Council of the South Dakota State Medical Association has designated the AIDS Task Force to be the South Dakota State Medical Association's representative to the South Dakota State Health Department on medical issues concerning AIDS.

The AIDS Task Force has continued in that role in the past year as well as serving as the advisory group within the South Dakota State Medical Association on medical issues concerning AIDS.

The Task Force has had no agenda items to consider during the past year.

I would like to thank the following members of the committee for serving on the AIDS Task Force.

Donald Humphreys, MD, Sioux Falls

Jerome Freeman, MD, Sioux Falls
Thomas Huber, MD, Pierre
Alfred Hartmann, MD, Sioux Falls
Michael McVay, MD, Sioux Falls
Wendell Hoffman, MD, Sioux Falls
Richard Belatti, MD, Madison

Respectfully submitted,
Bruce Lushbough, MD, Chairman
AIDS Task Force

The Reference Committee reviewed the report of the AIDS Task Force and recommended acceptance of the report as submitted.

REPORT OF THE MEDICAL LEGAL COMMITTEE

This committee met a couple of times during the year and discussed some common problems with communications between the two professions. It is a committee designed to receive complaints from either members of the State Bar or the State Medical Association and to try to deal with these in a resolving fashion. One such complaint filed was with regard to fair and appropriate charges for obtaining patient records. Another concern dealt with supporting efforts to streamline medical proof and eliminate costly medical depositions. This matter was turned over to the State Bar Association as it was primarily a legal concern and matter. Another complaint centered around physician charges for medical depositions. The commission is not in a position to set a fixed fee for these services and suggested that the State Medical Association reiterate points previously sent to its membership encouraging physicians to be reasonable in their deposition fees. Another issue before the committee was concern regarding resuscitation by EMS personnel on patients not wishing to be resuscitated. We were unable to gather more data and facts in the particular case, and the issue was deferred until further information was forthcoming.

An ongoing concern of the committee has been the need to have interprofessional meetings and develop more rapport between the two professions, as well as the students from both professions. A subcommittee has been formed to develop an educational professional meeting with topics of interest to students in both professions for some time this next school year.

It is my sense that the strength of this committee is in providing a liaison between the two professions and developing more communication and an opportunity to voice concerns and differences in a constructive environment.

Respectfully submitted,
Jerry L. Walton, MD, Co-Chairman
Medical Legal Committee

The Reference Committee reviewed the report of the Medical Legal Committee and recommended the report be accepted as submitted.

Serotonin Reuptake Inhibitors

Debra N. Dees, Pharm.D and Daniel J. Dees, MD, Aberdeen, SD

Since the introduction of fluoxetine (Prozac®) in 1988, medications which inhibit serotonin reuptake have proven to be of great value. Clinical efficacy, a favorable side effect profile, and safety are primary reasons for the use of these newer agents. Tricyclic antidepressants (TCA's), especially the tertiary amines (amitriptyline, imipramine) have long been known to inhibit serotonin reuptake in the CNS. Now a new generation of psychotropic agents exerts their primary effect on serotonin rather than other biogenic amines - the serotonin reuptake inhibitors (SRI's).

Several medications are classed as *selective* serotonin reuptake inhibitors (SSRI's). These, in order of introduction to the U.S. market, are fluoxetine (Prozac®), sertraline (Zoloft®) and paroxetine (Paxil®). They are chemically dissimilar. In addition, the TCA clomipramine (Anafranil®), long available in Europe, is a potent SRI. This ability is the result of substitution of chlorine for a single hydrogen atom on the imipramine molecule. Venlafaxine (Effexor®) is a recently released novel agent with potent SRI and norepinephrine reuptake inhibiting (NRI) activity.

All of the above agents are able antidepressants, useful in both primary and secondary depressions. Efficacy of the SRI's compares favorably with the older agents: TCA's and monoamine oxidase inhibitors (MAOI's). Indications include major depression, dysthymia and the depressive component of bipolar and schizoaffective disorders. Both tricyclics and SRI's are effective, along with behavioral and cognitive psychotherapies, for panic disorder with or without agoraphobia. Bupropion (Wellbutrin®) and trazadone (Desyrel®) are not. Fluoxetine is likely to receive FDA approval for treatment of bulimia in the near future. Obsessive compulsive disorder (OCD) had long been an unfortunate disorder unresponsive to treatment. All SRI's appear to be effective for OCD, with fluoxetine and clomipramine currently approved by the FDA for this use. Fluvoxamine (Fluvox®) is another selective SRI soon to be marketed for OCD. Generalized anxiety often responds favorably to SRI or TCA therapy.

Treating depression used to entail subjecting patients to numerous undesirable side effects. Monoamine oxidase inhibitors cause postural hypotension, anticholinergic side effects, and central nervous system depression or stimulation, and are incompatible with dietary tyramine. Tricyclic antidepressants cause

side effects by histamine receptor blockade (sedation, weight gain, hypotension), muscarinic receptor blockade (dry mouth, blurred vision, urinary retention, constipation, memory impairment) and adrenergic receptor blockade (postural hypotension, dizziness, reflex tachycardia, sexual dysfunction). Patients of all ages often find these side effects so annoying that compliance issues arise. Potential for conduction delay, arrhythmias and postural hypotension often make older agents less suitable for use in elderly patients and those with cardiac disease.

With the exception of clomipramine (which displays the TCA side effect profile) SRI's are extremely "user friendly". The most common side effects are gastrointestinal (anorexia, nausea), CNS stimulation (nervousness, insomnia, tremor), somnolence (particularly paroxetine and fluvoxamine), sweating, sexual dysfunction (anorgasmia) and headache. Side effects of venlafaxine resemble those of the selective SRI's (nausea, headache, anxiety, anorexia, nervousness, sweating, dizziness, insomnia and somnolence). Many of these side effects diminish with continued use. The selective SRI's have considerably less cardiovascular effects than TCA's. In some patients venlafaxine can cause a dose related blood pressure elevation. It does not cause orthostatic hypotension or conduction delay or arrhythmias.

Drug interactions are a consideration in the use of fluoxetine as it effects cytochrome P450IID6. Concentrations of TCA's and other drugs metabolized by this enzyme can be significantly elevated when fluoxetine is used concurrently. The other selective SRI's and venlafaxine seem to be safer in this regard. The most important drug interactions of selective SRI's are their interactions with each other, with 1-tryptophan (a serotonin precursor), and with the MAOI's. Excessive blockade of serotonin reuptake with excessive serotonin production, or blockade with concomitant impairment of synaptic degradation (by MAOI's) can result in the potentially lethal serotonin syndrome. Symptoms include excitement, hyperreflexia, hyperthermia, rigidity, sweating, tachycardia and hypertension. The serotonin syndrome can progress to autonomic instability, coma and death.

In the past, clinicians faced a dilemma of treating suicidal patients with lethal toxins. Despite the serotonin syndrome, the selective SRI's are much safer than older antidepressants in case of overdose.

Clomipramine seems to have a much lower association with suicide than other TCA's. This is felt to be a function of the SRI effect. Desipramine (Norpramin), a standard TCA with perhaps the least SRI effect, may have a higher association with suicide as compared with other TCA's. There is only a single case report of death by fluoxetine overdose. SRI's mark a significant advance in safer treatment of the suicidal patient.

In summary, SRI's offer particular advantages in terms of tolerability, spectrum of activity and safety. The higher cost of these agents can be offset by improved patient compliance and their safety record.

REFERENCES

- Abramowicz M, ed: Venlafaxine-a new antidepressant. *Med Lett* 1994;36:49-50.
- Grimsley SR, Jann MW: Paroxetine, sertraline and fluvoxamine: New selective serotonin reuptake inhibitors. *Clin Pharm* 1992;11:930-957.
- Kaplan HI, Sadock BJ: *Synopsis of Psychiatry*. Baltimore: Williams and Wilkins 1991.
- Settle EC: Antidepressant side effects: Issues and options. *J Clin Psychopharmacol* 1992;10:48-61.
- Wells BG, Hayes PE: Depressive disorders. In: DiPiro JT, Talbert RL, Hayes PE et al. eds. *Pharmacotherapy*. New York: Elsevier; 1992;1065-1083.



Edited by Brian Kaatz, Pharm.D.

ANNUAL MEETING MINUTES

SOUTH DAKOTA FOUNDATION FOR MEDICAL CARE

Thursday, June 9, 1994 Rushmore Plaza Holiday Inn
10:15 a.m. Rapid City, SD

The 19th Annual Meeting of the South Dakota Foundation for Medical Care was held on Thursday, June 9, 1994, at 10:15 a.m. at the Rushmore Plaza Holiday Inn and Civic Center, Rapid City, South Dakota.

The meeting was called to order by President Charles Hart, MD. The roll call was taken with the following members being present: Drs. Thomas L. Krafka, James Reynolds, Mary Carpenter, Rodney Parry, Stephan Schroeder, James Engelbrecht, Robert L. Ferrell, Michael Pekas, M. George Thompson, Stephen Gehring, James Larson, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Guy Tam, C. Roger Stoltz, Robert Raszkowski, John Sall, Walter Carlson, Larry Meyer, Richard Renka, Carol Zielike, Scott Eccarius, Gregg Tobin, Richard Kafka, Ben Henderson, Joe Chang, John Vidoloff, Jerome Eckrich, Roger Carter, Steven Feeney, Aaron Shives, Robert Rietz, Ronold Tesch, Ken Bartholomew, Shrirang Lele, Jerome Howe, Ronald Anderson, Angelina Trujillo, David Hoversten, W. O. Rossing, Robert VanDemark, Jr, Tom Masterson, J. Michael McMillin, Tom Reynolds, John Barker, James Ryan, Mary

Slattery, David Rossing, Donald Knudson, Vernon Stensland, R. Herbert Wiebe, Thomas Hermann, Cynthia Weaver, Nathaniel Whitney, O. Myron Jerde, John Barlow, Dave Johnson David Sandvik, Victoria Herr, and Tony Berg.

The President declared a quorum present for the purpose of conducting business of the corporation.

The President called for consideration of the minutes of the last annual meeting. He referred the membership to the Foundation minutes in the printed minutes furnished to each member. It was moved and seconded that the minutes be accepted as published and the reading thereof waived. Upon voice vote the same was approved unanimously.

Dr. Hart reported that the following persons were nominated for vacant terms of three years on the Board of Directors: Drs Carlton Kom, Gregg Tobin, Bruce Mannes, Muthugounder Venugopal, Catherine Gerrish, Mr. Robert Houser and Mr. Tom Schultz. There being no other nominations, the following persons were declared elected to serve on the Board of Directors: Drs. Carlton Kom, Gregg Tobin Bruce Mannes, Muthugounder Venugopal, Catherine Gerrish, Mr. Robert Houser and Mr. Tom Schultz.

Dr. Hart called for consideration of the financial report. He noted that the financial report was published and was furnished to each member of the body. Dr. Hart asked the membership if there were any questions, qualifications, or corrections. There being no comments, the financial report was accepted as published.

Dr. Hart referred the membership to the written report made by the president, and published in the Handbook, and also the written report contained therein of the Foundation's Medical Director and Principal Clinical Coordinator. He asked if anyone had any questions on the operations of the Foundation. There being none, he noted that the reports would be filed with the records of the Foundation.

Dr. Hart then asked for the consideration of other business. There being none, the meeting was adjourned at 10:20 a.m.

Larry Meyer, MD
Secretary

ANNUAL MEETING MINUTES

SOUTH DAKOTA STATE MEDICAL HOLDING COMPANY, INC.

Thursday, June 9, 1994 Rushmore Plaza Holiday Inn
10:20 a.m. Rapid City, SD

The 6th Annual Meeting of the South Dakota State Medical Holding Company, Inc., was held on Thursday, June 9, 1994, at 10:20 a.m. at the Rushmore Plaza Holiday Inn and Civic Center, Rapid City, South Dakota.

The meeting was called to order by President Robert Ferrell, MD. The roll call was taken with the following members being present: Drs. Thomas L. Krafka, James Reynolds, Mary Carpenter, Rodney Parry, Stephan Schroeder, James Engelbrecht, Michael Pekas, M. George Thompson, Paul Eckrich, Stephen Gehring, James Larson, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Guy Tam, C. Roger Stoltz, Robert Raszkowski, John Sall, Walter Carlson, Larry Meyer, Richard Renka, Carol Zielike, Scott Eccarius, Charles Hart, Gregg Tobin, Richard Kafka, Ben Henderson, Alan Bloom, Joe Chang, John Vidoloff, Michael Holte, Jerome Eckrich, Roger Carter,

Steven Feeney, Aaron Shives, Robert Rietz, Gerald Turner, Ronold Tesch, Ken Bartholomew, Shrirang Lele, Carey Buhler, Jerome Howe, Ronald Anderson, Angelina Trujillo, Janet Smith, David Hoversten, W. O. Rossing, Robert Van Demark, Jr, Tom Masterson, J. Michael McMillin, Tom Reynolds, John Barker, James Ryan, Karla Murphy, David Rossing, Donald Knudson, Vernon Stensland, R. Herbert Wiebe, Gregg Schroeder, Jem Hof, Julie Stevens, Thomas Hermann, Cynthia Weaver, O. Myron Jerde, John Barlow, Dave Johnson, Jeanne Bennett, David Sandvik, Victoria Herr, Tony Berg, and John Ottenbacher.

The President declared a quorum present for the purpose of conducting business of the corporation.

The President called for consideration of the minutes of the last annual meeting. He referred the membership to the SDSMHC minutes in the printed manual furnished to each member. The minutes were accepted as published and the reading thereof waived.

Dr. Ferrell reported on the election results for the vacant positions on the Board of Directors. The following persons were nominated for the election to the Board of Directors by the Nominating Committee: Drs. K. Gene Koob, Frank Messner, and James Jackson. Dr. Ferrell indicated no other nominations had been received from the membership. There being no further nominations, the following persons were declared elected to serve on the Board of Directors: Drs. K. Gene Koob, Frank Messner, and James Jackson.

Dr. Ferrell reviewed the financial report as published in the Handbook with the membership. Dr. Ferrell asked the membership if there were any questions concerning qualifications of or corrections to the financial report. There being no comments, the financial report was accepted as published.

For the benefit of the newer members of the corporate body, Dr. Ferrell provided a brief history on how DAKOTACARE was established and how the corporation has matured to the present state of its operations. He also discussed the current status of the filings with the Securities and Exchange Commission.

The next item discussed with the membership was Dakota Health Plans (DHP). DHP is a joint venture of DAKOTACARE, Sioux Valley Hospital, Rapid City Regional Hospital, and other South Dakota hospitals. Dr. Ferrell discussed with the corporate body how and why DHP got started. Concern has been expressed by certain participating physicians that not all hospitals have been included as participating hospitals in DHP. Due to the fact not all hospitals are participating, a number of physicians who are shareholders in DAKOTACARE and who practice at excluded hospitals are effectively not participating in DHP. This issue was addressed by Dr. Ferrell and an explanation offered as to the issues raised.

Dr. Walter Carlson stated that Presentation Health Systems (PHS) would be willing to meet any time, any place with a selected group from both DAKOTACARE and PHS to try and resolve any and all issues relating to their participation in DAKOTACARE and DHP. Dr. Carlson also indicated that PHS would be taking a strong look at supporting "any willing provider" legislation.

Dr. Ferrell asked for any comments or further business from the floor. There being none, the meeting was adjourned at 11 a.m.

Guy Tam, MD
Secretary

MINUTES OF SOUTH DAKOTA MEDICAL SERVICE, INC. CORPORATE BODY MEETING

11:00 a.m.
Thursday, June 9, 1994

Rushmore Plaza Civic Center
Rapid City, SD

Chairman McDermott called the meeting of the Corporate Body of South Dakota Medical Service, Inc. to order at 11:00 a.m., June 9, 1994, at the Rushmore Plaza Civic Center, Rapid City, South Dakota.

On roll call vote, the following members of the Corporate Body of the South Dakota Medical Service, Inc. were present: Drs. Thomas Krafska, James Reynolds, Mary Carpenter, Rodney Parry, Stephan Schroeder, James Engelbrecht, Robert Ferrell, Michael Pekas, M. George Thompson, Paul Eckrich, Stephen Gehring, James Larson, Richard Holm, Richard Wake, Thomas Huber, Phillip Hoffsten, Howard Saylor, Lucio Margallo, Jeffrey Hagen, K. Gene Koob, Guy Tam, C. Roger Stoltz, Robert Raszkwski, John Sall, Walter Carlson, Larry Meyer, Richard Renka, Carol Zielike, Scott Eccarius, Charles Hart, Gregg Tobin, Richard Kafka, Ben Henderson, Alan Bloom, Joe Chang, John Vidoloff, Michael Holte, Jerome Eckrich, Roger Carter, Steven Feeney, Aaron Shives, Robert Rietz, Gerald Turner, Ronold Tesch, Ken Bartholomew, Shrirang Lele, Carey Buhler, Jerome Howe, Ronald Anderson, Angelina Trujillo, Janet Smith, David Hoversten, W. O. Rossing, Robert VanDemark, Jr, Tom Masterson, J. Michael McMillin, Tom Reynolds, John Barker, James Ryan, Karla Murphy, David Rossing, Donald Knudson, Vernon Stensland, R. Herbert Wiebe, Charley Gutch, Gregg Schroeder, Jem Hof, Julie Stevens, Thomas Hermann, Cynthia Weaver, John Barlow, Allen Nord, Dave Johnson, Jeanne Bennett, David Sandvik, Victoria Herr, John Ottenbacher, Nathaniel Whitney, O. Myron Jerde, Tony Berg.

A quorum being present, the Chairman declared the annual meeting of the membership of the Corporate Body of the South Dakota Medical Service, Inc. to be duly in session for the transaction of business.

Dr. Koob moved that the reading of the minutes of the last meeting of the Corporate Body, being the 1993 annual meeting, be waived, the same having been published and mailed to each member previously. Such motion was seconded by Dr. Schroeder. Upon voice vote, the same was approved unanimously.

Chairman McDermott presented the Chairman's message to the Corporate Body and noted the complete message was printed in the Handbook.

No action being necessary on the Chairman's report, none was taken.

Chairman McDermott called upon President Ben Johnson to review the 1993 Annual Report. Mr. Johnson noted that each of the members were sent a copy of Blue Shield's annual statement for 1993 prior to this meeting. He highlighted certain items contained therein. He specifically mentioned that the Blue Shield 1993 premium income of \$58,746,431 and claims paid of \$50,847,227 shows that 86.6% of premium income was paid back to our subscribers. Blue Shield's underwriting gain in 1993 was \$2,955,222 or 5.0% of premium income, and its investment income was \$1,318,537. After deducting \$847,800 Federal Income Taxes, the net gain to surplus was \$3,425,959 or 5.8% of income. In 1993, Blue Shield processed 883,210 claims.

With no questions being addressed from the floor, Mr. Johnson concluded his report.

Chairman McDermott, at this point of the meeting, stated the next order of business was the election of directors. He asked Dr. Rossing to present the report of the Nominating Committee. Dr. Rossing reported as follows:

The Nominating Committee appointed by the Blue Shield Board of Directors recommended current Directors Lawrence W. Finney, MD and Robert J. Neumayr, MD be re-elected to the Board of Directors.

The Nominating Committee also recommended and nominated for election to the Board of Directors of South Dakota Medical Service, Inc. Gene Mahan for a three year term and Linda Mickelson to complete the term of Don Ham due to his death.

The Chairman called for nominations from the floor. No nominations were received from the floor.

Dr. Feeney moved current Directors Lawrence W. Finney, MD and Robert J. Neumayr, MD be re-elected to the Board of Directors. Dr. Larson seconded such motion. Upon voice vote, the same was approved unanimously.

Dr. Margallo moved the election of Gene Mahan to the Board of Directors for a three year term. Dr. Shives seconded the motion. Upon voice vote, the same was approved unanimously.

Dr. Holm moved the election of Linda Mickelson to the Board of Directors to complete the term of Don Ham due to his death. Dr. Carter seconded the motion. Upon voice vote, the same was approved unanimously.

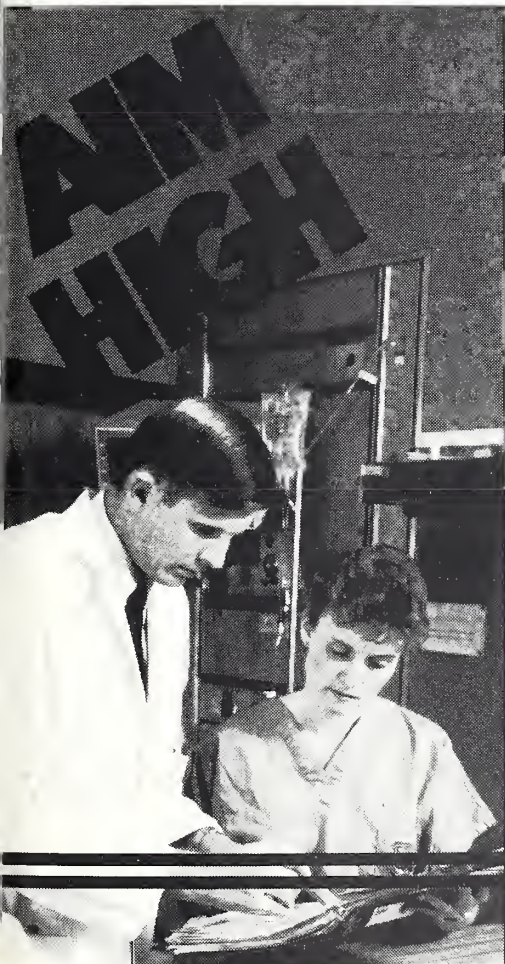
The Chairman asked if there was any old business which any delegate desired the Corporate Body to consider. Dr. Huber stated that he would like the minutes to reflect the Corporate Body's appreciation to Mr. McDermott for his time, effort and services to the Board of Directors of South Dakota Medical Service, Inc.

The Chairman called for consideration of any new business that any delegate would like to bring before the Corporate Body. There being none, the Chairman noted that Mr. William Janklow, legal counsel for South Dakota Medical Service, Inc. would like to address the Corporate Body. Mr. Janklow proceeded to update the Corporate Body concerning the current relationship between Blue Cross of South Dakota and South Dakota Blue Shield. At the conclusion of his remarks, he asked for questions from the floor. No questions were offered.

The Chairman then introduced Dr. Finney who had asked to address the Corporate Body. Dr. Finney presented Mr. McDermott with a plaque and a memento of Blue Shield in appreciation of 12 years of dedicated service to the Board of Directors of South Dakota Medical Service, Inc.

Chairman McDermott called for any further business to come before the Corporate Body. There being none, he called for a motion to adjourn the Corporate Body meeting. Dr. Reynolds moved the meeting be adjourned. Dr. Parry seconded the motion. Upon voice vote, the same was approved unanimously.

Philip M. Davis
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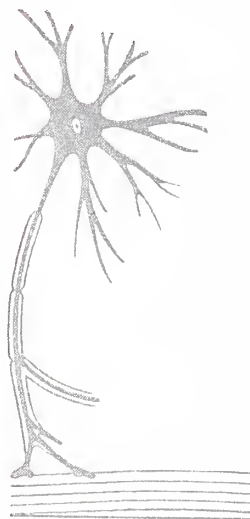
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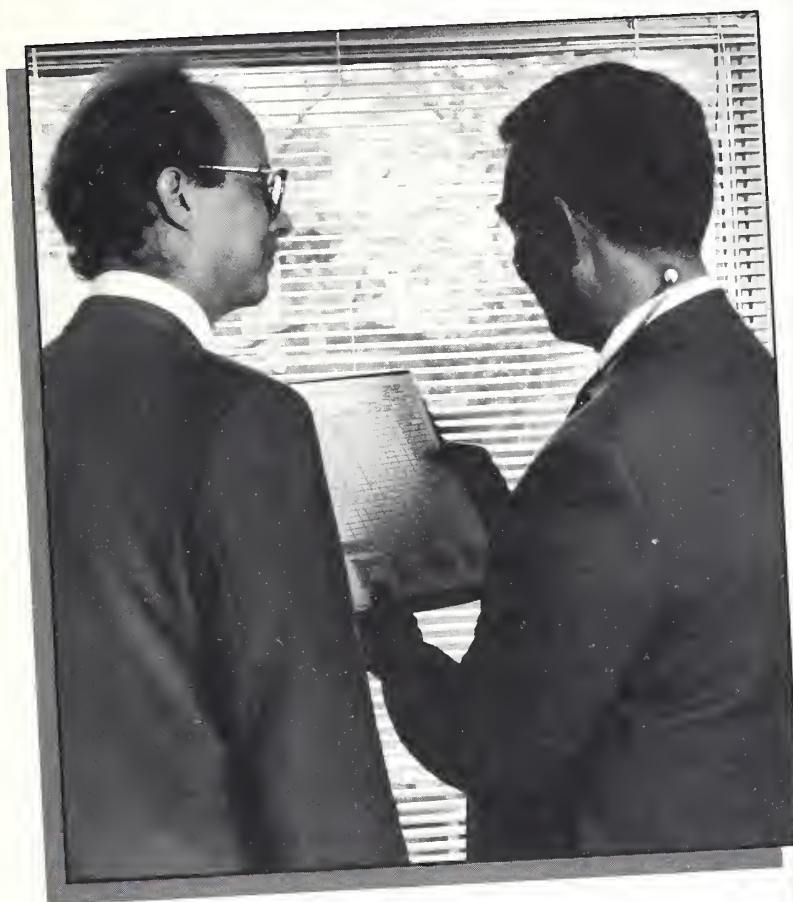
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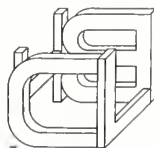
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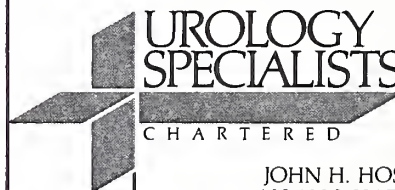
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 and Evans Nord, Sioux Falls (deceased)
 1979 ... Helen Jane Hare, MD, Rapid City
 1980 ... Warren Jones, MD, Sioux Falls
 1981 ... Saul Friefeld, MD, Brookings
 1982 ... G. Robert Bartron, MD, Watertown
 1983 ... Oscar J. Mabee, MD, Mitchell
 1984 ... Karl Wegner, MD, Sioux Falls
 1985 ... William R. Taylor, MD, Aberdeen
 1986 ... R. E. VanDemark, Sr, MD, Sioux Falls
 1987 ... Bruce C. Lushbough, MD, Brookings
 1988 ... John J. Stransky, MD, Watertown
 1989 ... John Barlow, MD, Rapid City
 1990 ... Durward Lang, MD, Sioux Falls (deceased)
 1991 ... Russell H. Harris, MD, Sioux Falls
 1992 ... Joseph N. Hamm, MD, Sturgis
 1993 ... Robert L. Ferrell, MD, Rapid City
 1994 ... Richard G. Gere, MD, Mitchell

COMMUNITY SERVICE AWARD

1961 ... R. A. Buchanan, MD, Huron (deceased)
 1962 ... Roland F. Hubner, MD, Yankton (deceased)
 1963 ... George W. Mills, MD, Wall (deceased)
 1964 ... John C. Hagin, MD, Miller (deceased)
 1965 ... Alonzo P. Peeke, MD, Volga (deceased)
 1966 ... Hugo C. Andre, MD, Vermillion (deceased)
 1967 ... G. Robert Bartron, MD, Watertown
 1968 ... M. M. Morrissey, MD, Pierre (deceased)

1969 ... N. J. Sundet, MD, Kadoka (deceased)
 1970 ... W. H. Saxton, MD, Huron (deceased)
 1971 ... R. E. VanDemark, Sr, MD, Sioux Falls
 1972 ... R. H. Hayes, MD, Wall (deceased)
 1973 ... B. F. King, MD, Aberdeen (deceased)
 1974 ... M. C. Tank, MD, Brookings (deceased)
 1975 ... Karl Wegner, MD, Sioux Falls
 1976 ... John T. Elston, MD, Rapid City
 1977 ... W. F. Stanage, MD, Yankton
 1978 ... C. S. Roberts, Jr, MD, Brookings
 1979 ... C. J. McDonald, MD, Sioux Falls (deceased)
 1980 ... E. A. Johnson, MD, Milbank
 1981 ... J. A. Muggly, MD, Madison (deceased)
 1982 ... Robert R. Giebink, MD, Sioux Falls
 1983 ... Theodore H. Sattler, MD, Yankton
 1984 ... Paul Hohm, MD, Huron
 1985 ... George Mangulis, MD, Philip
 1986 ... Richard Friess, MD, Sioux Falls
 1987 ... Melford B. Lyso, MD, Sioux Falls
 1988 ... Brooks Ranney, MD, Yankton
 1989 ... William R. Taylor, MD, Aberdeen
 1990 ... Reuben Bareis, MD, Rapid City
 1991 ... O. Myron Jerde, MD, Rapid City
 1992 ... Duane Reaney, MD, Yankton
 1993 ... Nathaniel Whitney, MD, Rapid City
 1994 ... Granville H. Steele, MD, Aberdeen

FIFTY YEAR CLUB MEMBERS

C. V. Auld, MD, Plankinton (deceased)
 Harold Adams, MD, Huron
 Thomas Billion, MD, Sioux Falls
 G. J. Bloemendaal, MD, Ipswich (deceased)
 Henry Borgmeyer, MD, Rapid City
 W. C. Brinkman, MD, Sisseton (deceased)
 R. A. Buchanan, MD, Huron (deceased)
 John L. Calene, MD, CA (deceased)
 Myrtle Carney, MD, TX (deceased)
 Bernard S. Clark, MD, Spearfish
 J. C. Clark, MD, Sioux Falls (deceased)
 F. L. Class, MD, Huron (deceased)
 M. E. Cogswell, MD, Wolsey (deceased)
 E. H. Collins, MD, Gettysburg
 J. Cook, MD, Bonesteel (deceased)
 G. I. W. Cottam, MD, Sioux Falls (deceased)
 Harold L. Crane, MD, CT (deceased)
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 W. E. Donahoe, MD, Sioux Falls (deceased)
 J. A. Eckrich, Sr, MD, Aberdeen (deceased)
 V. W. Embree, MD, Pierre (deceased)
 W. D. Farrell, MD, Aberdeen (deceased)
 R. B. Fleeger, MD, Lead (deceased)
 R. R. Fisk, MD, Flandreau (deceased)
 R. W. Freyberg, MD, Mitchell (deceased)
 E. E. Gage, MD, Sioux Falls (deceased)
 Freeman J. Gilbert, MD, Belle Fourche
 D. A. Gregory, MD, MT (deceased)
 E. H. Grove, MD, Arlington (deceased)
 M. Stuart Grove, MD, Sioux Falls
 J. C. Hagin, MD, Miller (deceased)
 Helen Jane Hare, MD, Rapid City
 Lyle Hare, MD, Spearfish (deceased)

John F. Hill, MD, Yankton (deceased)
 Emil Hofer, MD, Huron
 J. A. Hohf, MD, Yankton (deceased)
 Theodore A. Hohm, MD, Huron
 F. S. Howe, MD, Deadwood (deceased)
 A. H. Hovne, MD, Salem (deceased)
 Roland Hubner, MD, Yankton (deceased)
 A. S. Jackson, MD, Rapid City (deceased)
 R. J. Jackson, MD, Hot Springs (deceased)
 J. A. Jacotel, MD, Milbank (deceased)
 G. T. Jordan, MD, Vermillion (deceased)
 F. F. Keene, MD, Wessington Springs (deceased)
 H. O. Kittelson, MD, Sioux Falls
 Arthur A. Lampert, Sr, MD, Rapid City
 Ray Lemley, MD, Rapid City (deceased)
 Bernard Lenz, MD, Huron (deceased)
 J. H. Lloyd, MD, Mitchell (deceased)
 O. J. Mabree, MD, Mitchell
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 P. V. McCarthy, MD, Aberdeen (deceased)
 Murlin Merryman, MD, Rapid City
 G. W. Mills, MD, Wall (deceased)
 B. C. Murdy, MD, Aberdeen (deceased)
 T. F. O'Toole, MD, Rapid City (deceased)
 Gordon S. Owen, MD, Rapid City
 N. T. Owen, MD, Rapid City (deceased)
 L. L. Parke, MD, Canton (deceased)
 C. C. Pascale, DO, Centerville
 A. P. Peeke, MD, Volga (deceased)
 M. O. Pemberton, MD, Deadwood (deceased)
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 F. J. Radusch, MD, CA (deceased)
 T. B. Ranney, MD, Aberdeen (deceased)
 Arthur P. Reding, MD, Marion
 T. F. Riggs, MD, Pierre (deceased)
 Maurice Rousseau, MD, Watertown (deceased)
 I. R. Salladay, MD, Ft. Meade (deceased)
 W. H. Saxton, MD, Huron (deceased)
 H. L. Saylor, MD, Huron (deceased)
 C. S. Schad, DO, Rapid City
 C. E. Sherwood, MD, Brookings (deceased)
 Arthur W. Spiry, MD, Mobridge (deceased)
 Myron Tank, MD, Brookings (deceased)
 F. J. Tobin, MD, Mitchell (deceased)
 Leonard W. Tobin, MD, Mitchell (deceased)
 J. S. Tschetter, MD, Huron (deceased)
 Paul Tschetter, MD, Huron
 F. W. Valkenaar, MD, Chancellor (deceased)
 G. E. VanDemark, MD, Sioux Falls (deceased)
 Cleo L. Vogelee, MD, Aberdeen
 H. P. Volin, MD, Lennox (deceased)
 C. H. Weishaar, MD, Aberdeen (deceased)
 J. R. Westaby, MD, Madison (deceased)
 G. E. Zimmerman, MD, MT (deceased)

C. B. ALFORD AWARD

1974 ... Roscoe Dean, MD, Wessington Springs
 1975 ... Gerald Tracy, MD, Watertown
 1976 ... Robert Westaby, MD, Hot Springs
 1977 ... Robert VanDemark, Sr, MD, Sioux Falls
 1978 ... Howard Saylor, Jr, MD, Huron
 1979 ... J. D. Bailey, MD, Rapid City

1980 ... John T. Elston, MD, Rapid City
 1981 ... T. H. Sattler, MD, Yankton
 1982 ... Bedford T. Otey, MD, Flandreau
 1983 ... Robert H. Quinn, MD, Spearfish
 1984 ... Granville Steele, MD, Aberdeen
 1985 ... Robert Hayes, MD, Wall (deceased)
 1986 ... Leonard Linde, MD, Mobridge
 1987 ... Richard Sample, MD, Madison
 1988 ... Willis Stanage, MD, Yankton
 1989 ... Reuben Bareis, MD, Rapid City
 1990 ... Rodney Parry, MD, Sioux Falls
 1991 ... Donald Humphreys, MD, Sioux Falls
 1992 ... Thomas Welty, MD, Rapid City
 1993 ... Loren Amundson, MD, Sioux Falls

SPECIAL PRESIDENTIAL AWARD

1979 ... G. Robert Bartron, MD, Watertown
 1983 ... Gerald E. Tracy, MD, Watertown
 1986 ... Russell H. Harris, MD, Rapid City
 1991 ... Robert E. VanDemark, Sr, MD, Sioux Falls
 1991 ... Dennis L. Johnson, MD, Sioux Falls (deceased)
 1991 ... Parry S. Nelson, MD, Watertown (deceased)
 1994 ... William G. Porter, Rapid City

MEDIA AWARD

1993 ... Bobbi Lower, Sioux Falls
 1994 ... Helene Duhamel, Rapid City

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Horner, William J.	Sioux Falls	Mark, Curtis L.	Viborg	*Quinn, Robert.....	Spearfish
Hosen, Richard S.	Sioux Falls	Marten, Brian R.....	Sioux Falls	Rabenberg, Rita	Sioux Falls
Hoskins, John H.	Sioux Falls	Masterson, Thomas E.	Sioux Falls	Randall, Bradley B.	Sioux Falls
Hoversten, David L.	Sioux Falls	McClafin, Richard.....	Sioux Falls	Raszkowski, Robert R.	Sioux Falls
Howard, Richard J.	Sioux Falls	McGrann, James R.	Sioux Falls	Rath, G. Daniel.....	Canton
Hoxtell, Eugene O.	Sioux Falls	McGreevy, Patrick S.	Sioux Falls	Reaney, John A.....	Sioux Falls
Humphreys, Donald W.	Sioux Falls	McKercher, Scott W.	Sioux Falls	Regier, Eugene R.	Canton
Hurley, Brian T.	Sioux Falls	McMillin, J. Michael.....	Sioux Falls	Renner, L. Mark	Sioux Falls
Hurley, Dominic	Sioux Falls	Meyer, Robert D.	Sioux Falls	Reynen, Paul D.....	Sioux Falls
Hurley, Timothy E.	Sioux Falls	Meyer, Vaughn H.	Sioux Falls	Reynolds, James R.	Sioux Falls
Hussain, Rifat	Sioux Falls	Mikkelsen, Beth	Sioux Falls	Reynolds Tom R.	Sioux Falls
Hyland, Lowell J.	Sioux Falls	Moench, Jerry L.	Sioux Falls	Rezkalla, Maher	Sioux Falls
*Janis, John B.	Sioux Falls	Mohama, Riyad.....	Sioux Falls	Richards, George A.	Sioux Falls
Jaqua, Richard A.	Sioux Falls	Mohler, Charles W.	Sioux Falls	Richardson, James L.	Sioux Falls
Jassim, Ali D.	Sioux Falls	Morgan, Timothy	Sioux Falls	Ridder, Glenn A.....	Sioux Falls
Jerstad, John	Sioux Falls	Morris, Alan D.	Sioux Falls	Ries, Dennis D.....	Freeman
Johnson, Jorge H.	Sioux Falls	Morse, Peter H.....	Sioux Falls	Robinson, Michael	Sioux Falls
Johnson, Mark W.	Sioux Falls	Munson, David P.	Sioux Falls	Rodig, Mark.....	Sioux Falls
Johnson, R. C.	Sioux Falls	Murphy, Karla	Sioux Falls	Rodman, Peter K.	Sioux Falls
Jones, Warren L.	Sioux Falls	Murray, Jeffrey A.	Sioux Falls	Rolfsmeyer, Eric S.	Sioux Falls
Justice, Michael W.	Dell Rapids	Mutch, Milton G., Jr	Sioux Falls	Rossing, David R.	Sioux Falls
Kalda, Ellison F. II	Sioux Falls	Nagelhout, David	Sioux Falls	Rossing, William O.	Sioux Falls
Kangley, Daniel J.	Sioux Falls	Naughton, Gregory.....	Sioux Falls	Rost, Michael C.....	Sioux Falls
Kannan, Hari D.....	Sioux Falls	Neidich, Gary A.....	Sioux Falls	Ryan, James E.	Sioux Falls
Karl, Stephen R.....	Sioux Falls	Nelimark, Robert A.	Sioux Falls	Ryan, John J.	Sioux Falls
Kaufman, Irvin I.	Freeman	Nelson, Patrick A.....	Sioux Falls	Rydberg, Mitchel L.	Dell Rapids
Kemp, Earl D.	Sioux Falls	Nelson, Richard A.....	Sioux Falls	Salem, Anthony G.	Sioux Falls
Kennelly, Daniel J.	Sioux Falls	Nelson, Robert E.	Sioux Falls	Sall, John C.	Sioux Falls
Keppen, Laura	Sioux Falls	Nice, Richard F.	Sioux Falls	Salmela, Steven R.	Sioux Falls
Keppen, Michael.....	Sioux Falls	Nielsen, James L.	Dell Rapids	Sanchez, Gonzalo M.	Sioux Falls
Kihne, Michael	Sioux Falls	Nord, Wesley J.	Sioux Falls	Sanchez, Jorge D.	Sioux Falls
*King, Lyndon M., Jr	Sioux Falls	Nordstrom, Donald G.....	Sioux Falls	Sanderson, Everett W.....	Sioux Falls
Kirton, Kenneth.....	Freeman	Nussbaum, David.....	Sioux Falls	Santella, Robert N.	Sioux Falls
*Kittelson, H. Otis	Sioux Falls	Oakland, James A.....	Sioux Falls	Schafer, Larry W.	Sioux Falls
*Knowles, Roy C.	Sioux Falls	O'Brien, Charles P.	Sioux Falls	Schellpfeffer, Donald	Sioux Falls
Knudson, Donald H.	Sioux Falls	O'Brien, Peter J.	Sioux Falls	Schneider, Scott.....	Sioux Falls
Knutson, Dennis D.	Sioux Falls	Ochsner, John A.	Sioux Falls	Schroeder, Greg.....	Sioux Falls
Koob, K. Gene.....	Sioux Falls	Oesterheld, Jessica.....	Sioux Falls	Schroeder, Michael R.....	Sioux Falls
Kovacs, Stephen J.....	Sioux Falls	Ofstein, Lewis C.	Sioux Falls	Schultz, Gregory A.	Sioux Falls
Krome, Lori A.	Dell Rapids	Ohrt, David W.	Sioux Falls	Schultz, Richard D.	Sioux Falls
Kummer, Mark.....	Sioux Falls	Olson, Jennifer J.....	Sioux Falls	Schultz, Thomas A.	Sioux Falls
Kunkel, Shirley	Sioux Falls	Olson, Michael L.	Sioux Falls	Seger, Yvonne.....	Sioux Falls
Kunkel, Steve	Sioux Falls	Olson, Paul J.	Sioux Falls	Seidel, Robert R.	Sioux Falls
Kutayli, Farid.....	Sioux Falls	Olson, Steven P.	Sioux Falls	Shafer, Charles.....	Sioux Falls
Labesky, James.....	Sioux Falls	*Opheim, Warren L.	Sioux Falls	Shields, David.....	Sioux Falls
Lakstigala, Peters E.	Sioux Falls	Opheim, Warren O. V.	Sioux Falls	Shreves, Howard B.....	Sioux Falls
Lang, Terry A.	Sioux Falls	Oppenheimer, Mark.....	Sioux Falls	Simmons, Jerry L.	Sioux Falls
Lankhorst, Barry J.	Sioux Falls	Orr, Russell T.	Sioux Falls	Sittner, Larry.....	Sioux Falls
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Larsen, David.....	Sioux Falls	Owens, Leycester, Jr.....	Sioux Falls	Smith, A. Donald.....	Sioux Falls
Larsen, Laura J. R.	Sioux Falls	Parry, Rodney R.....	Sioux Falls	Smith, Janet E.....	Sioux Falls
Larson, Leland J.	Sioux Falls	*Pasek, Edward A.	Sioux Falls	Smith, R. Maclean	Sioux Falls
Lawler, Patricia J.	Sioux Falls	Paul, K-Lynn	Sioux Falls	Smith, Sandra B.....	Sioux Falls
*Lee, Si Gaph	AZ	Payne, Harlan A.....	Sioux Falls	Snortum, Robert.....	Sioux Falls
Lindo, Kristine C.	Sioux Falls	Pederson, Kim A.	Sioux Falls	Solberg, Lloyd E.	Sioux Falls
Lockwood, Scott A.....	Sioux Falls	Pekas, Michael W.	Sioux Falls	Sorenson, Arne C.	Sioux Falls
Lockwood, William	Sioux Falls	*Petereit, Martin F.....	Sioux Falls	Soundy, Timothy J.	Sioux Falls
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Madison, Dean L.	Sioux Falls	Pitt-Hart, Barry T.....	Sioux Falls	*Steidl, Lester J.	CO
Magidson, Melvin A.	Sioux Falls	Plummer, Richard L.	Sioux Falls	*Steiner, Peter K.	CA
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 Stokka, Cameron Sioux Falls
 Stoltz, C. Roger Sioux Falls
 Story, Amanda J. Sioux Falls
 Strawbridge, Lawrence Sioux Falls
 Suga, Robert Sioux Falls
 *Sweeney, Lloyd J. Sioux Falls
 Talley, Robert C. Sioux Falls
 Tam, Guy E. Sioux Falls
 Thanel, Fredric H. Sioux Falls
 Thomas, David Sioux Falls
 Thompson, Vance Sioux Falls
 Tibbitts, G. Michael Sioux Falls
 Tieszen, Jerel E. Sioux Falls
 Tobin, Michael D. Sioux Falls
 Travers, Henry Sioux Falls
 Trujillo, Angelina Sioux Falls
 Tschetter, Loren K. Sioux Falls
 Tschetter, Richard T. Sioux Falls
 Uken, Patsy A. Sioux Falls
 Uthe, Craig J. Sioux Falls

Vaca, Anthony M. Sioux Falls
 VanDemark, Robert, Jr Sioux Falls
 *VanDemark, Robert, Sr Sioux Falls
 VanderWoude, John Sioux Falls
 VanderWoude, Larry B. Sioux Falls
 VanSloun, Wm. MN
 Vaska, Kevin J. Sioux Falls
 Vogt, H. Bruce Sioux Falls
 Volin, Verlynne V. Sioux Falls
 Vonk, Galen Sioux Falls
 *Wagner, Loyd R. Sioux Falls
 Wallace, James W. Sioux Falls
 Waltner, Lonnie L. Bridgewater
 Walton, Jerry L. Sioux Falls
 Watson, Mary Canton
 Watson, William J. Sioux Falls
 Watson, William V. Sioux Falls
 Watt, Bruce A. Sioux Falls
 *Wegner, Karl H. Sioux Falls
 Wellman, Lawrence R. Sioux Falls
 Welter, Randal Sioux Falls

Wenger, Robert S. Sioux Falls
 Wengs, William J. Sioux Falls
 West, David Sioux Falls
 Wheeler, Kirke H. Sioux Falls
 White, Thomas C. Sioux Falls
 Whittle, Kevin D. Sioux Falls
 Wiebe, R. Herbert Sioux Falls
 Wierda, Daryl R. Sioux Falls
 Williams, Buck J. Sioux Falls
 Willman, Brent Sioux Falls
 Wilson, Thomas M. Sioux Falls
 Wingert, Donald Sioux Falls
 Wingert, Marvin E. Garretson
 Wirtz, Patricia S. Sioux Falls
 Witzke, David R. Sioux Falls
 *Wyatt, George W. Sioux Falls
 Wyatt, Ronald O. Sioux Falls
 Zawada, Edward T. Sioux Falls
 Zoellner, Timothy Sioux Falls

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 Farver, Max Yankton
 Ferrell, Robert T. Yankton
 *Fletcher, Harold J. Vermillion
 Flom, Jon O. Yankton
 Foley, Robert J. Tyndall
 Frank, John J. Yankton
 Gerhart, Victoria Dakota Dunes
 Gilmore, Howard T. Yankton
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 Hansen, Lori Yankton
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 Holzwarth, David R. Yankton
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 Isburg, Carroll D. Yankton
 Jameson, G. Malcolm Yankton
 Jenny, David Yankton
 Johnson, Daniel Yankton
 Johnson, Virginia P. Vermillion

Vice Pres, Jem Hof, MD

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 Kaplan, Richard Yankton
 Kerr, James Yankton
 King, Patrick H. Yankton
 Krohn, David C. Yankton
 Liudahl, Jeffrey Yankton
 Loperena, Rudolf Wagner
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 McVay, Michael R. Yankton
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 Meyer, Larry A. Yankton
 Milroy, Mary J. Yankton
 Nelsen, Marcia Yankton
 Neubauer, Jo Marie Yankton
 Neumayr, Robert J. Yankton
 Nicholson, Peter J. Wagner
 Olson, Thomas H. Vermillion
 Pesce, Ulises Pierre
 Potas, David G. Yankton
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 *Reaney, Duane B. Yankton
 Reding, Arthur P. Marion
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 *Riesberg, Elsa TX
 Ruggles, James Yankton
 Saloum, Herbert A. Tyndall
 Samlowski, Ralph C. Sioux Falls
 Saoi, Nicasio B. Yankton
 *Sattler, Theodore H. Yankton
 *Sebring, Floyd U. MN
 Smith, David A. Yankton
 Sprik, Calvin Yankton
 Stanage, Willis F. Yankton
 Stephenson, Daryl R. Yankton
 Sternquist, John C. Yankton
 Stevens, Julie C. Vermillion
 Thompson, Robert F. Yankton
 Tidd, John T. Yankton
 Tuan, Chung H. Yankton
 Turner, Charles R. Vermillion
 Weber, Scott A. Wagner
 Wells, John M. Yankton
 Wiggs, James W. Yankton
 Willcockson, John R. Yankton
 *Willcockson, Thomas H. Yankton
 Withrow, David Yankton
 Yelverton, Charles Vermillion

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 *Ahrlin, Hollis L. Rapid City
 Allen, Bruce H. Rapid City
 Allen, Robert G., Jr Rapid City
 Altstiel, Terry L. Sturgis
 Andersen, Victoria Hot Springs
 *Anderson, A. Byford Rapid City

Vice Pres,

Anderson, Dale R. Rapid City
 Anderson, Wayne J. Spearfish
 Bailey, Stephen P. Rapid City
 Bareis, Reuben J. Rapid City
 Barlow, John F. Rapid City
 Barrett, Kathryn A. Rapid City
 Bauman, Randell E. Rapid City

Sec/Treas, N. R. Whitney, MD

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 *Behrens, Clayton L. Rapid City
 Belsaas, Rebecca Rapid City
 Bennett, Jeanne M. Rapid City
 Bergeron, Dale A. Rapid City
 Berkebille, Dale E. Rapid City
 Birch, Fredric Rapid City

*Bloemendaal, Robert D.	Rapid City	Habbe, Donald.....	Rapid City	McBride, Alexander M.	Spearfish
Bochna, Gary S.	Rapid City	Hafner, Daniel J.	Rapid City	McCafferty, James D.	Rapid City
Boddicker, Marc E.	Rapid City	*Hamm, Joseph N.	Rapid City	*McGuigan, Patrick.....	Rapid City
*Borgmeyer, Henry J.	Rapid City	Hansen, Craig K.	Rapid City	McGuire, Michael P.	Rapid City
Bormes, Paul A.	Rapid City	Hanson, Charles	Rapid City	McLaughlin, Ruth M.	Deadwood
*Boyce, Raymond A.	Rapid City	Hanson, George.....	Custer	McMenamy, Kandi R.	Rapid City
Boyer, David W.	Rapid City	*Hare, Helen Jane	Rapid City	*Merryman, Murlin P.....	Rapid City
Brady, Forrest S.	Spearfish	Harlow, Mark L.	Rapid City	Millea, Roger P.	Rapid City
*Branch Robert F.	Rapid City	Hart, Charles E.	Rapid City	Minton, Timothy P.	Rapid City
*Bray, Robert B.	Rapid City	Hata, Steven K.	Rapid City	Mortimer, Sam L.	Rapid City
Bright Douglas A.	Rapid City	Hayes, Craig R.	Spearfish	*Munson, H. Benjamin	Rapid City
Brown, Michael J.	Spearfish	Heintz, Douglas J.	Rapid City	Nesbit Dennis	Rapid City
Buehner, Marvin E.	Rapid City	Herbst, John W.	Rapid City	Neu, Norman D.	Rapid City
Burnap, Donald W.	Rapid City	Herlihy, John J.	Rapid City	Nixon, Robert B.	Rapid City
Burnett, Raymond G.	Rapid City	*Hermann, Harland, Sr.....	Rapid City	Nord, Allen E.	Rapid City
Butz, Gerald W.	Rapid City	Hermann H. Thomas, Jr.....	Sturgis	O'Brien, Kristin	Rapid City
Calhoon, Stephen L.	Rapid City	Herr, Victoria A.	Rapid City	Oliver, Donald E.	Rapid City
*Cameron, Douglas E.	Rapid City	Hewitt, Gregory.....	Belle Fourche	*Owen, Gordon S.	Rapid City
Carlson, Gary L.	Rapid City	*Hewitt, John.....	Rapid City	Papendick, Lew.....	Rapid City
Carr, Deanna L.	ND	Hicks, Terry	Rapid City	Parker, Jeffrey C.	Spearfish
Carver, Richard F.	Rapid City	Hofmann, Alfred R.	Rapid City	Penaskovic, Stephen A.	Rapid City
Christensen, Michael.....	Rapid City	Holloway, James J.	Deadwood	Picardi, Edward.....	Rapid City
*Clark, Bernard S.	Spearfish	Honke, Sandra J.	Rapid City	Polizzi, Raymond A.....	Hot Springs
Clement, Kathi	Spearfish	Howard, Ben J.	Rapid City	Porter, Richard I.	Fort Meade
Cornford, Raymond C.	Rapid City	Howard, William J.	Rapid City	Preston, Robert	Rapid City
*Cruse, Joseph R.	Rapid City	Huot, Samuel W.	Rapid City	Purdy, Drew A.	Rapid City
Delaney, Thomas P.	Sturgis	Iverson, Gregory J.	Rapid City	Renka, Richard P.	Rapid City
Dewald, Allan L.	Rapid City	Jackson, James W.	Rapid City	Rey, Daniel A.	Rapid City
Dick, Stephen	Rapid City	Jacobson, Theodore R.	Hot Springs	Roberts, Bob H.	Spearfish
Drabek, Gregg A.	Rapid City	*James, Edward H.	Rapid City	Rosario, Elmo J.	Rapid City
Drummond, Ronald G.	Rapid City	Janss, Gerti J.	Rapid City	Rud, James A.	Rapid City
Dunlay, Robert W.	Rapid City	Jenter, George W.	Sturgis	Rud, John	Rapid City
Durr, Samuel	Rapid City	Jentes, Paul K.	Sturgis	*Ruud, Edward T.	Rapid City
Durst, Robert, A., Jr.....	Rapid City	Jerde, O. Myron	Rapid City	Sabow, John D.	Rapid City
Dykes, T. Lane, Jr.....	Spearfish	Johnson, Dave R.	Rapid City	Sahl, Wm. J., Jr	Rapid City
Dzintars, Egon F.	Rapid City	Johnson, Robert K.	Rapid City	Sandvik, David E.....	Rapid City
*Dzintars, Paul F.	Rapid City	*Jones, William E.	Sturgis	Sanmartin, Jorge E.	Rapid City
Ebbert, Larry P.	Rapid City	Keegan, James M.	Rapid City	Schad, C. S.	Rapid City
Eccarius, Scott	Rapid City	*Kelley, Donald H.....	Deadwood	Schuft, James.....	Sturgis
*Elston, John T.	Rapid City	Kelts, K. Alan	Rapid City	Schurrer, Michael.....	Rapid City
Elston, Michael P.	Rapid City	*Klar, Werner	Fort Meade	Schutz, Robert J.....	Rapid City
Engelbrecht, James A.	Rapid City	Klopper, Coenraad C.	Philip	Sejvar, Joseph P.	Rapid City
Fercha, Mohammed.....	Deadwood	Knecht, John F.	Martin	Seljeskog, Edward L.	Rapid City
Ferrell, Robert L.	Rapid City	Knutson, Roger S.....	Rapid City	Shannon, Thomas H.	Fort Meade
Fetters, Barbara R.	Hot Springs	*Koren, Paul H.	Rapid City	Shining, H. Streeter.....	Rapid City
Fields, Billy.....	Spearfish	Kovarik, Joseph A.	Rapid City	Simmons, Lynn M.	Rapid City
Finley, Richard C.	Rapid City	*Kovarik, Richard A.	Rapid City	Simmons, Mathew E.....	Rapid City
Finley, Robert	Rapid City	Kovarik, Stephen M.	Rapid City	Slama, David D.	Rapid City
Finley, Victoria Kusters	Rapid City	*Kovarik, Wenzel, J.....	Sturgis	Slingsby, J. Geoffrey	Rapid City
Franz, Daniel	Rapid City	Krafka, Thomas L.	Rapid City	Smith, Barry A.	Spearfish
Freimark, Lyle G.	Rapid City	Kuller, Deborah A.	Deadwood	Spahn, Martin S.....	Rapid City
Fromm, Harold E.	Rapid City	Kunz, James A.	Rapid City	Statz, Michael.....	Rapid City
*Frost, Harold L.	Rapid City	Kwan, Francis P.	Rapid City	Stenberg, Jon R.	Rapid City
Frost, James A.	Rapid City	*Lampert, Arthur A., Sr	Rapid City	Stocks, Steven C.....	Rapid City
Frost, Timothy.....	Rapid City	Lang, David A.	Rapid City	Stone, Kurt.....	Rapid City
Gibson, Robert.....	Rapid City	Lauer, David A.	Sturgis	Strand, Ray D.	Rapid City
*Gilbert, Freeman J.	Belle Fourche	Lewis, Charles A.	Sturgis	Strong, Lori.....	Sioux Falls
Gill, Timothy J.	Rapid City	Liedtke, Curtis J.	Sturgis	Sullivan, Daniel J.	Rapid City
Giuseffi, Steven A.	Spearfish	Loos, Charles M.	Rapid City	Sutliff, Willis C.	Rapid City
Golliher, Warren N.	Spearfish	Lord, Charles J.	Rapid City	Swisher, Lowell P.	Kadoka
Goodhope, Robert C.	Fort Meade	Lustig, Karl A.	Spearfish	Tackett, Daniel M.	Rapid City
Graff, Randall P.	Deadwood	Mangulis, George J.	Philip	Teixeira, Jose.....	Rapid City
Groeger, Thomas	Deadwood	Manlove, Stephen	Rapid City	Teuber, Larry L.	Rapid City
Groote, Curtis A.	Rapid City	Massopust, Steven	Rapid City	*Theissen, Hubert H.	Rapid City
Gwinn, Charles B.	Fort Meade	Mathews, Michael J.	Rapid City	Tillan, Maria.....	Rapid City
Haas, Stephen N.	Rapid City	*Mattson, William J.	AZ	Traub, Douglas.....	Rapid City

Trinidad, Reuben B. CO
 Tschetter, William R. Rapid City
 Tschida, Brian Rapid City
 VanEtten, Donald D. Rapid City
 Vaughn-Whitley, Kelly E. Rapid City
 Vogeles, Kenneth A. Rapid City
 Vosler, Steven T. Spearfish
 Waltman, Steven E. Rapid City
 Weaver, Cynthia Rapid City

Wehrkamp, Larry Sturgis
 Weitzenkamp, Larry A. Martin
 Welsh, Gary L. Rapid City
 Welty, Edith R. Rapid City
 Wessel, Alvin E. Rapid City
 *Westaby, Robert S. Rapid City
 *Whitney, Nathaniel R. Rapid City
 Wicks, Dennis R. Custer
 *Williams, Francis R. AZ

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 Wojewski, Paul Rapid City
 Wright, Paul L. Rapid City
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 *Yackley, James V. Rapid City
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 Nelson, Lawrence F. Webster
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Vanadurongvan, Kanya Milbank
 Vanadurongvan, Vichit Milbank

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 Adam-Burchill, Paula Sioux Falls
 Adams, Curtis M. Yankton
 *Adams, Harold P. Huron
 Ahrlin, Lee Rapid City
 *Ahrlin, Hollis L. Rapid City
 Alandy, Antonio M. Eureka
 Aldrich, Marc N. Sioux Falls
 Allen, Bruce H. Rapid City
 Allen, Raymond H. Sioux Falls
 Allen, Robert G., Jr Rapid City
 *Allen, Stanley W., Jr Watertown
 Altman, Stanley B. Aberdeen
 Altstiel, Terry L. Sturgis

Alvine, Frank G. Sioux Falls
 Amundson, E. Paul Sioux Falls
 Amundson, Loren H. Sioux Falls
 Andersen, Victoria Hot Springs
 *Anderson, A. Byford Rapid City
 Anderson, Courtney Sioux Falls
 Anderson, Dale R. Rapid City
 Anderson, Edward F. Sioux Falls
 Anderson, Esther E. Aberdeen
 Anderson, James A. Huron
 Anderson, Keith A. Sioux Falls
 Anderson, Ronald Mitchell
 Anderson, Wayne J. Spearfish
 Andreone, Peter A. Sioux Falls
 *Angelos, Theodore A. NE
 *Argabrite, John W. Watertown
 *Arneson, Wallace A. Sioux Falls

Asfora, Wilson Sioux Falls
 Ashbaugh, James H. Sioux Falls
 *Askwig, Leroy C. AZ
 Aspaas, Paul K., Jr Sioux Falls
 *Aspaas, Paul K., Sr Dell Rapids
 Assam, Susan Sioux Falls
 Atchison, Scott Sioux Falls
 Augspurger, Ken D. Sioux Falls
 Awadallah, Sami Sioux Falls

Baas, Walter P. Mitchell
 Bachmayer, Jay D. Aberdeen
 Backes, Richard J. Sioux Falls
 Bahnson, Berne B. Sioux Falls
 Bailey, Stephen P. Rapid City
 Baka, J. Jeffrey Sioux Falls

Bandettini, Francis C. Sioux Falls
 Bareis, Reuben J. Rapid City
 Barker, John D., Jr. Sioux Falls
 Barker, Phillip Parkston
 Barlow, John F. Rapid City
 Barnes, David Yankton
 *Barnett, George L. Sioux Falls
 Barrett, Kathryn A. Rapid City
 Barth, Richard Sioux Falls
 Bartholomew, Ken Pierre
 Bartron, G. Robert Watertown
 Bauer, Barry C. Sioux Falls
 Baugh, William R. Watertown
 Bauman, Randell E. Rapid City
 Bean, David Sioux Falls
 Becker, Eldon Pierre
 Bedingfield, John R., Jr. Rapid City
 Beecher, Mary Madison
 Behrend, Robert D. Sioux Falls
 *Behrens, Clayton L. Rapid City
 Belatti, Richard G. Madison
 Bell, Douglas Sioux Falls
 Bell, Eldon E. APO
 Bell, G. Robert DeSmet
 Belsaas, Rebecca Rapid City
 Belyea, Mark Huron
 Bennett, Jeanne M. Rapid City
 Benson, Gail M. Sioux Falls
 Benson, Margaret Sioux Falls
 Bentz, Jerome W. Platte
 Berg, Sterling Redfield
 Berg, Tony L. Winner
 Bergeron, Dale A. Rapid City
 Berkebile, Dale E. Rapid City
 *Berry, Jack T. Mitchell
 Berry, Scott H. Aberdeen
 Berry, Spencer Mitchell
 Bess, Michael A. Sioux Falls
 Bhat, Dileep S. Mitchell
 Bhatar, Vinod Sioux Falls
 Bieberly, Frank G., Jr. Chamberlain
 Billion, John J. Sioux Falls
 Billion, Stephen P. Sioux Falls
 *Billion, Thomas J., Jr. Sioux Falls
 Birch, Fredric Rapid City
 Birkenkamp, Ray T. Mitchell
 Bishop, Donald Sioux Falls
 Bjordahl, Kevin L. Webster
 Blake, Jerome Sioux Falls
 *Bloemendaal, Robert D. Rapid City
 Bloom, Alan Webster
 Blue, Daniel Sioux Falls
 Boade, W. Allan Sioux Falls
 Bochna, Gary S. Rapid City
 Boddicker, Marc E. Rapid City
 Boice, John L. Sioux Falls
 Bolliger, Eugene Gregory
 *Borgmeyer, Henry J. Rapid City
 Bormes, Paul A. Rapid City
 *Boyce, Raymond A. Rapid City
 Boyd, Rock F. Burke
 Boyer, David W. Rapid City
 Brady, Forrest S. Spearfish
 Braithwaite, Thomas M. Sioux Falls
 *Branch, Robert F. Rapid City
 Brandenburg, Verdayne Sioux Falls

*Bray, Robert B. Rapid City
 Brechtelsbauer, David A. Sioux Falls
 *Breit, Donald H. Sioux Falls
 Brewer, Marshall L. Sioux Falls
 Bright, Douglas A. Rapid City
 Broadhurst, Kennon E. Aberdeen
 Brown, Michael J. Spearfish
 Brown, Russell T. Mitchell
 Bruning, Gary L. Flandreau
 Bubak, Gary A. Wagner
 Bubak, Mark Sioux Falls
 Buchholz, Carole Huron
 Buchholz, Curtis Huron
 Buehner, Marvin E. Rapid City
 Buhler, Carey Mitchell
 Bunker, Thomas G. Aberdeen
 Burdeny, Derek Sioux Falls
 Burgers, James W. Brandon
 Burnap, Donald W. Rapid City
 Burnett, Raymond G. Rapid City
 Burns, Charles E. Sioux Falls
 Burns, Howard W. Sioux Falls
 *Burns, Kendall R. Sioux Falls
 Burrish, Gene F. Sioux Falls
 Butz, Gerald W. Rapid City

Caldwell, Candace Sioux Falls
 Calhoon, Stephen L. Rapid City
 *Cameron, Douglas E. Rapid City
 Carlson, Craig L. Rapid City
 Carlson, Gary L. Rapid City
 Carlson, Gregg W. Aberdeen
 Carlson, Walter O. Sioux Falls
 Carpenter, Mary S. Winner
 Carpenter, Paul L. Sioux Falls
 Carr, Deanna L. ND
 Carrera, Jose Sioux Falls
 Carroll, Nancy L. Sioux Falls
 *Carter, Peter B. Aberdeen
 Carter, Roger L. Watertown
 Carver, Richard F. Rapid City
 Cass, Joseph R. Sioux Falls
 Cecil, Daniel P. Brookings
 Chalmers, James H. Sioux Falls
 Chang, Joe P. Aberdeen
 Chavier, Juan R. Aberdeen
 Chicoine, Noel D. Pierre
 Cho, Dong S. Sioux Falls
 Cho, Myung Sioux Falls
 Christensen, Martin J. Mitchell
 Christensen, Michael W. Rapid City
 *Christopher, John Aberdeen
 Christopherson, Thomas Sioux Falls
 Church, Ann K. Sioux Falls
 *Church, Bill Sioux Falls
 Cink, Paul Sioux Falls
 Cink, Thomas M. CO
 Clark, Andrew Gregory
 *Clark, Bernard S. Spearfish
 *Clark, Carroll J. Watertown
 Clark, Edward T. Sioux Falls
 Clement, Kathi Spearfish
 *Collins, E. Howard Gettysburg
 Collins, James D. Mobridge
 Cooper, Greg A. Sioux Falls

Coppock, Diane Sioux Falls
 Cornford, Raymond C. Rapid City
 *Cosand, Marion R. AZ
 Crandell, Michael P. Kennebec
 Crank, Robert N. Watertown
 Crismon, Craig E. Watertown
 Crump, John Sioux Falls
 *Cruse, Joseph R. Rapid City
 Culey, Shawn R. Dell Rapids
 *Cutshall, Vincent K. AR

Dahl, Robert K. Sioux Falls
 Davis, John Sioux Falls
 *Daw, Edward F. CO
 Day, Richard P. Sioux Falls
 *Dean, Roscoe AZ
 Dean, Thomas Wessington Springs
 DeClark, Robert P. Sioux Falls
 Deering, William M. Sioux Falls
 *DeGeest, James H. Miller
 DeHaan, Douglas Sioux Falls
 *Delaney, Robert J. Mitchell
 Delaney, Thomas P. Sturgis
 *Delaney, William, Jr. Mitchell
 Dendinger, William J. Vermillion
 *Desai, Bhasker J. Watertown
 Devick, Margaret R. Canton
 Dewald, Allan L. Rapid City
 Dick, Stephen Rapid City
 Dilger, Joseph T. Mitchell
 Dimitrievich, Elizabeth Sioux Falls
 Doohen, Mark Sioux Falls
 Dorsey, Robert F. ND
 Drabek, Gregg A. Rapid City
 Drummond, Ronald G. Rapid City
 Drymalski, Walter G. Sioux Falls
 D'Souza, Edward P. Aberdeen
 Dunlay, Robert W. Rapid City
 Dunst, Jerome Aberdeen
 Durr, Samuel Rapid City
 Durst, Robert A., Jr. Rapid City
 Dykes, T. Lane, Jr. Spearfish
 Dzintars, Egon F. Rapid City
 *Dzintars, Paul F. Rapid City
 Dzintars, Valdis A. Sioux Falls

Easton, Jessie K. M. Sioux Falls
 Ebhart, Larry P. Rapid City
 Eccarius, Scott G. Rapid City
 Eckhoff, P. James Sioux Falls
 Ecklund, Scott W. Sioux Falls
 Eckrich, Jerome A., Jr. Aberdeen
 Eckrich, Paul C. Aberdeen
 Eidsness, LuAnn Sioux Falls
 *Eirinberg, Isadore D. Sioux Falls
 *Elkjer, Neil J. IA
 Ellerhusch, David A. Aberdeen
 Elson, David L. Sioux Falls
 *Elston, John T. Rapid City
 Elston, Michael Rapid City
 Engelbrecht, James A. Rapid City
 Engelmann, Gary Miller
 English, Gilbert L. Sioux Falls
 *Ensberg, Dorence L. Sioux Falls

Entwistle, Frederick.....Sioux Falls
 Ephgrave, Pamela M.....Sioux Falls
 *Epp, Dennis L.....Freeman
 Erickson, David K.....Dell Rapids
 Erickson, Gregory.....Sioux Falls
 Erickson, Kirsten.....Sioux Falls
 Estes, Thomas.....AL

*Fahrenwald, Myron E.....Conde
 Falk, Alex.....Aberdeen
 Famestad, Gary.....Sioux Falls
 *Farrell, Harry W.....AZ
 Farritor, Michael E.....Sioux Falls
 Farver, Max.....Yankton
 *Fedt, Donald N.....Watertown
 Feeney, Steven P.....Watertown
 Fenton, Lawrence J.....Sioux Falls
 Fercha, Mohammed.....ND
 *Ferrell, Michael R.....Sioux Falls
 Ferrell, Robert L.....Rapid City
 Ferrell, Robert T.....Yankton
 Fettes, Barbara R.....Hot Springs
 Fiegen, Michael M.....Sioux Falls
 Fields, Billy.....Spearfish
 Filler, Elliott W.....Brookings
 Finley, Richard C.....Rapid City
 Finley, Robert.....Rapid City
 Finley, Victoria Kisters.....Rapid City
 Finney, Lawrence W.....Sioux Falls
 *Fisk, Robert G.....Flandreau
 *Fletcher, Harold J.....Vermillion
 Flom, Jon O.....Yankton
 *Flora, George C.....Sioux Falls
 Foley, Robert J.....Tyndall
 Foley, Stephen T.....Sioux Falls
 Frank, John J.....Yankton
 Franz, Daniel.....Rapid City
 Frazer, Paul.....Sioux Falls
 Free, Thomas.....Sioux Falls
 Freeman, Jerome W.....Sioux Falls
 Freimark, Lyle G.....Rapid City
 *Friefeld, Saul.....MN
 Friess, Richard W.....Sioux Falls
 Fritz, John R.....Aberdeen
 Fromm, Harold E.....Rapid City
 Frost, Donald M.....Sioux Falls
 *Frost, Harold L.....Rapid City
 Frost, James A.....Rapid City
 Frost, Timothy.....Rapid City
 Fuller, William C.....Sioux Falls
 Fullerton, Thomas E.....Sioux Falls

Gaeckle, C. Thomas.....Sioux Falls
 Gaede, James E.....Mitchell
 Gehring, Stephen H.....Watertown
 Geise, Douglas.....Sioux Falls
 George, Robert J.....Sioux Falls
 *Gerber, Bernard C.....Aberdeen
 Gerber, Jean L.....Aberdeen
 *Gere, Richard G.....Mitchell
 Gerhart, Victoria.....Dakota Dunes
 Gerrish, Catherine C.....Watertown
 Gerrish, Edwin S.....Watertown
 Gesink, Melvin.....Watertown
 Gibson, Robert.....Rapid City

Giebink, Patricia.....Sioux Falls
 *Giebink, Robert R.....Sioux Falls
 *Gilbert, Freeman J.....Belle Fourche
 Gill, Timothy J.....Rapid City
 Gillis, Floyd D., Jr.....Mitchell
 Gilmore, Howard T.....Yankton
 Giridhar, Sanjeevi.....Aberdeen
 Giuseffi, Steven A.....Spearfish
 Golliher, Warren N.....Spearfish
 Goodhope, Robert C.....Fort Meade
 Graff, Randall P.....Deadwood
 Graham, Donald B.....Sioux Falls
 Green, Marc A.....Sioux Falls
 *Greenfield, Duane L.....Sioux Falls
 *GREGG, John B.....Sioux Falls
 Gregg, Mark.....Sioux Falls
 Griffin, John.....Sioux Falls
 Groeger, Thomas.....Deadwood
 Groote, Curtis A.....Rapid City
 *Gross, H. Phil.....CA
 *Grove, M. Stuart.....Sioux Falls
 *Gryte, Clifford F.....Huron
 Guerin, Michael, J. Jr.....Huron
 Gunderson, Dale E.....Rapid City
 Gunnarson, Richard E.....Sioux Falls
 *Gutch, Charley F.....Sioux Falls
 Gutnik, Leonard M.....Sioux Falls
 Gutnik, Steve H.....Sioux Falls
 Gwinn, Charles B.....Fort Meade

Haas, Stephen N.....Rapid City
 Habbe, Donald.....Sioux Falls
 Hafner, Daniel J.....Rapid City
 Hagen, Jeffrey B.....Sioux Falls
 Haley, Michael D.....Mitchell
 Hall, Barbara.....Sioux Falls
 Halma, Gary.....Sioux Falls
 Halverson, Kenneth.....Yankton
 *Hamm, Joseph N.....Rapid City
 Hammer, Bryan J.....Sioux Falls
 Hauna, Marwin.....Sioux Falls
 Hansen, Craig K.....Rapid City
 Hansen, Lori.....Yankton
 Hanson, Bernie H.P.....Watertown
 Hanson, Charles.....Rapid City
 Hanson, George R.....Custer
 Hanson, Jeffrey W.....Huron
 Hanson, William O.....Huron
 Hardie, Richard D.....Sioux Falls
 *Hare, Helen Jane.....Rapid City
 Harlow, Mark C.....Aberdeen
 Harlow, Mark L.....Rapid City
 Harms, Robert W.....Sioux Falls
 Harris, Frederick L.....Sioux Falls
 Harris, Mary H.....Sioux Falls
 Harris, Russell H.....Sioux Falls
 Hart, Charles E.....Rapid City
 Hart, Christine R.....Sioux Falls
 Hart, Harvey J.....Aberdeen
 Hartmann, Alfred E.....Sioux Falls
 Hartzell, Allan J.....Sioux Falls
 Hassan, Adel A.F.....Madison
 Hata, Steven K.....Rapid City
 Hayes, Craig R.....Spearfish
 Head, Stephen.....Mobridge
 Heddleston, Leslie N.....Sioux Falls

Hedges, Craig P.....Sioux Falls
 Heiling, Karen.....Sioux Falls
 Heilman, Bernard F.....Madison
 Heinemann, Daniel J.....Canton
 Heinemann, Phyllis E.....Aberdeen
 Heintz, Douglas J.....Rapid City
 Heisinger, Randolph W.....Aberdeen
 Held, Gordon.....GA
 Held, William E.....Sioux Falls
 Helgaas, Steffen.....Brookings
 Henderson, Ben J.....Mobridge
 Henrickson, Lynn A.....Sioux Falls
 Henrickson, Robert G.....Sioux Falls
 *Henry, Robert B.....Brookings
 Henry, Scott D.....Sioux Falls
 Herbst, John W.....Rapid City
 Herlihy, John J.....Rapid City
 *Hermann, Harland, Sr.....Rapid City
 Hermann, H. Thomas, Jr.....Sturgis
 *Hermanson, John M.....Brandon
 Herr, Victoria A.....Rapid City
 Herrin, Gerald R.....Pierre
 Hewitt, Gregory.....Belle Fourche
 *Hewitt, John.....Rapid City
 Hibbard, Michael D.....Sioux Falls
 Hicks, Terry.....Rapid City
 Hieb, Richard.....Brookings
 Hill, Laurie.....Sioux Falls
 Hiltunen, Scott J.....Yankton
 Hockett, Richard D.....Mitchell
 Hof, Jem.....Yankton
 Hofer, Catherine.....Sioux Falls
 Hofer, Daryls R.....Sioux Falls
 *Hofer, Emil A.....Huron
 Hoffman, Wendell W.....Sioux Falls
 Hoffsten, Phillip E.....Pierre
 Hofmann, Alfred R.....Rapid City
 Hogue, Michael E.....Sioux Falls
 Hohm, Byron T.....Sioux Falls
 Hohm, Paul H.....Huron
 Hohm, Robert C.....Huron
 *Hohm, Theodore A.....Huron
 Holkesvik, Reid E.....Aberdeen
 Holland, Lambert W.....Chamberlain
 Holloway, James J.....Deadwood
 Holm, Richard P.....Brookings
 Holte, Michael J.....Aberdeen
 Holum, Douglas M.....Mitchell
 Holzwarth, David R.....Yankton
 Honke, Richard W., II.....Parkston
 Honke, Sandra J.....Rapid City
 Horner, William J.....Sioux Falls
 Horning, James R.....Watertown
 Hosen, Richard S.....Sioux Falls
 Hoskins, John H.....Sioux Falls
 Hoversten, David L.....Sioux Falls
 Hovland, James I.....Aberdeen
 Howard, Ben J.....Rapid City
 Howard, Richard J.....Sioux Falls
 Howard, William J.....Rapid City
 Howe, Jerome K.....Mitchell
 Hoxtell, Eugene O.....Sioux Falls
 Huber, Joel B.....Miller
 Huber, Thomas J.....Pierre
 Hubner, Jay W.....Yankton
 *Huet, William G.M.....Huron

Humphreys, Donald W. Sioux Falls
 Hunt, Ralph E. Chamberlain
 Huot, Samuel W. Rapid City
 *Huppler, Edward G. MN
 Hurley, Brian T. Sioux Falls
 Hurley, Dominic Sioux Falls
 Hurley, Timothy E. Sioux Falls
 Hussain, Rif'at Sioux Falls
 Hyland, Lowell J. Sioux Falls

Isburg, Carroll D. Yankton
 Iverson, Gregory J. Rapid City

Jackson, James W. Rapid City
 Jacobs, Tad B. Flandreau
 Jacobson, Theodore R. Hot Springs
 *Jahraus, R. Curtis Pierre
 *James, Edward H. Rapid City
 Jameson, G. Malcolm Yankton
 *Janavs, Visvaldis FL
 *Janis, John B. Sioux Falls
 Janss, Gerti J. Rapid City
 Janusz, Albin J. Aberdeen
 Jaqua, Richard A. Sioux Falls
 Jassim, Ali D. Sioux Falls
 Jenny, David Yankton
 Jenter, George W. Sturgis
 Jentes, Paul K. Sturgis
 Jerde, O. Myron Rapid City
 Jerstad, John P. Sioux Falls
 Johnson, Daniel C. Yankton
 Johnson, Dave R. Rapid City
 *Johnson, Edward A. Milbank
 Johnson, Jorge H. Sioux Falls
 Johnson, Kenneth M. Watertown
 Johnson, Mark W. Sioux Falls
 Johnson, R.C. Sioux Falls
 Johnson, Robert K. Rapid City
 Johnson, Thomas C. Brookings
 Johnson, Virginia P. Vermillion
 Jones, D. Brynley Platte
 Jones, James A. Watertown
 Jones, John B. Chamberlain
 Jones, Warren L. Sioux Falls
 *Jones, William E. Sturgis
 *Judge, John O. AZ
 Justice, Michael W. Dell Rapids

Kafka, Richard Gregory
 *Kalda, Ellison F. Platte
 Kalda, Ellison F., II Sioux Falls
 Kangley, Daniel J. Sioux Falls
 Kannan, Hari D. Sioux Falls
 Kaplan, Richard Yankton
 Kapur, Hiroo R. Huron
 Kapur, Ravi Huron
 Karl, Stephen, R. Sioux Falls
 Karlen, Louis W. DeSmet
 Kass, Joseph Rosholt
 Kaufman, Irvin I. Freeman
 Keegan, James M. Rapid City
 *Kelley, Donald H. Deadwood
 Kelts, K. Alan Rapid City
 Kemp, Earl D. Sioux Falls

Kennelly, Daniel J. Sioux Falls
 Keppen, Bruce Aberdeen
 Keppen, Laura Sioux Falls
 Keppen, Michael Sioux Falls
 Kerr, James Yankton
 Kihne, Michael Sioux Falls
 *King, Lyndon M., Jr Sioux Falls
 King, Patrick H. Yankton
 Kirton, Kenneth Freeman
 Kitowski, Theodore Brookings
 *Kittelson, H. Otis Sioux Falls
 *Klar, Werner Fort Meade
 Kloppper, Coenraad C. Philip
 Knecht, John F. Martin
 *Knowles, Roy C. Sioux Falls
 Knowles-Smith, Peter ND
 Knudson, Donald H. Sioux Falls
 Knutson, Dennis D. Sioux Falls
 Knutson, Roger S. Rapid City
 Kom, Carlton J. Aberdeen
 Koob, K. Gene Sioux Falls
 *Koren, Paul H. Rapid City
 Kosina, Thomas Winner
 Kosse, Karl H. Aberdeen
 Kovacs, Stephen J. Sioux Falls
 Kovarik, Joseph A. Rapid City
 *Kovarik, Richard A. Rapid City
 Kovarik, Stephen M. Rapid City
 *Kovarik, Wenzel J. Sturgis
 Krafka, Thomas L. Rapid City
 Krizan, Kelly J. Pierre
 Krohn, David C. Yankton
 Krome, Lori, A. Dell Rapids
 Kullerd, Deborah Deadwood
 Kummer, Mark Sioux Falls
 Kundel, David Mitchell
 Kundel, Robert R. Chamberlain
 Kunkel, Shirley Sioux Falls
 Kunkel, Steve Sioux Falls
 Kunz, James A. Rapid City
 Kurch, Julie Ann Huron
 Kutayli, Farid Sioux Falls
 Kwan, Francis P. Rapid City

Labesky, James Sioux Falls
 Lakstigala, Peters E. Sioux Falls
 Lamb, Marlin R. Watertown
 *Lampert, Arthur A., Jr Rapid City
 *Lampert, Arthur A., Sr Rapid City
 Landreth, Knute, Jr. Huron
 Lang, David A. Rapid City
 Lang, Terry A. Sioux Falls
 Lankhorst, Barry J. Sioux Falls
 Laput, Aleksandra M. Sioux Falls
 *Lardinois, Clifford C., Sr. Huron
 Larsen, David Sioux Falls
 Larsen, Laura J.R. Sioux Falls
 Larson, Gregory R. Watertown
 Larson, James C. Watertown
 Larson, Leland J. Sioux Falls
 Larson, Paul M. Watertown
 Lauer, David A. Sturgis
 Lawler, Patrick J. Sioux Falls
 *Lee, Si Gaph AZ

Leland, Dennis G. Mitchell
 Lele, Shrirang M. Huron
 *Leon, Paul R. Aberdeen
 Lewis, Charles A. Sturgis
 Liedtke, Curtis J. Sturgis
 Likness, Clark W. Watertown
 Lindbloom, Brent Pierre
 Lindbloom, Buron O. Pierre
 Linde, Leonard M. Mobridge
 Lindo, Khristine C. Sioux Falls
 Linn, Bernard Pierre
 Liudahl, Jeffrey Yankton
 Lockwood, Scott A. Sioux Falls
 Lockwood, William W. Sioux Falls
 Loewen, Nathan H. Huron
 Looby, Thomas L. Sioux Falls
 Loos, Charles M. Rapid City
 Loperena, Rudolf Wagner
 Lord, Charles J. Rapid City
 Lorenzen, Kim Mitchell
 Lovrien, Fred C. Sioux Falls
 Luebke, Marlys Corsica
 Lushbough, Bruce C. Brookings
 Lustig, Karl A. Spearfish
 Luzier, Thomas L. Aberdeen
 Lynch, Patrick Aberdeen
 *Lyso, Melford B. Sioux Falls

Mabee, Judson O. Mitchell
 Mabee, Lee M. Sioux Falls
 Mabee, Mark J. Yankton
 *Mabee, Oscar J. Mitchell
 MacDougall, James Aberdeen
 MacRandall, Daniel G. Sioux Falls
 Madison, Dean L. Sioux Falls
 Magidson, Melvin A. Sioux Falls
 Magnuson, Gregory L. Sioux Falls
 Mahnke, Mark W. Sioux Falls
 Malek, Michel Aberdeen
 Mallek, John A. Sioux Falls
 Malm, John A. Gregory
 Malters, David T. Mitchell
 Malters, Patricia B. Mitchell
 Mangulis, George J. Philip
 Manlove, Stephen Rapid City
 Mannes, Bruce Yankton
 Margallo, Lucio N., II Mitchell
 Mark, Curtis L. Viborg
 Marten, Brian R. Sioux Falls
 Massopust, Steven Rapid City
 Masterson, Thomas E. Sioux Falls
 Matheny, Theodore Chamberlain
 Mathews, Michael J. Rapid City
 *Mattson, William J. Rapid City
 Mayo, Chester W.P. Aberdeen
 McBride, Alexander Spearfish
 McCafferty, James D. Rapid City
 McClafflin, Richard Sioux Falls
 McFadden, Raymond J. Faulkton
 McFee, John Bowdle
 McGrann, James R. Sioux Falls
 McGreevy, Patrick S. Sioux Falls
 *McGuigan, Patrick Rapid City
 McGuire, Michael P. Rapid City

*McHardy, Bryson R.Aurora
 *McIntosh, George F.Eureka
 McKenney, Janice M.Huron
 McKenzie, Mark K.Mitchell
 McKercher, Scott W.Sioux Falls
 McKichan, John M.Aberdeen
 McLaughlin, Ruth M.Deadwood
 McMenemy, Kandi R.Rapid City
 McMillin, J. MichaelSioux Falls
 McVay, Michael R.Yankton
 McWhirter, Robert E.Mitchell
 Megard, Daniel J.Yankton
 Mendoza, Eric F.Aberdeen
 *Merryman, Murlin P.Rapid City
 Messner, Frank D.Yankton
 Meyer, Larry A.Yankton
 Meyer, Robert D.Sioux Falls
 *Meyer, Robert J.Watertown
 Meyer, Vaughn H.Sioux Falls
 Mikkelsen, BethSioux Falls
 Millea, Roger P.Rapid City
 Milroy, Mary J.Yankton
 Minder, Jim L.Pierre
 Minnhaar, Guillermo T.Huron
 Minton, Timothy P.Rapid City
 Mitchel, Pat W.Burke
 Moench, Jerry L.Sioux Falls
 Mogen, Mark P.Aberdeen
 Mohama, Riyad.Sioux Falls
 Mohler, Charles W.Sioux Falls
 Monfore, James E.Armour
 *Monson, Charles D.Parkston
 Morgan, Timothy J.Sioux Falls
 Morris, Alan D.Sioux Falls
 Morse, Peter H.Sioux Falls
 Mortimer, Sam L.Rapid City
 *Mueller, Eric H.Tripp
 Munson, David P.Sioux Falls
 *Munson, H. BenjaminRapid City
 Murphy, Karla K.Sioux Falls
 Murray, Jeffrey A.Sioux Falls
 Mutch, Milton G., Jr.Sioux Falls

Nagelhout, David.Sioux Falls
 Naughton, Gregory.Sioux Falls
 Nedved, Lonnie J.Mitchell
 Neidich, Gary A.Sioux Falls
 Nelimark, Robert A.Sioux Falls
 Nelsen, Marcia.Yankton
 Nelson, Earl G.Watertown
 Nelson, Lawrence F.Webster
 Nelson, Patrick A.Sioux Falls
 Nelson, Richard A.Sioux Falls
 Nelson, Robert E.Sioux Falls
 Nemer, Raymond G.Gregory
 Nesbit, Dennis.Rapid City
 Neu, Norman D.Rapid City
 Neubauer, Jo Marie.Yankton
 Neumayr, Robert J.Yankton
 Nice, Richard F.Sioux Falls
 Nicholas, George A.Huron
 Nicholson, Peter J.Wagner
 Nielsen, James L.Dell Rapids
 Nipe, Hollis.Watertown
 Nixon, Robert B.Rapid City

*Nolan, Bernard P.MN
 Nord, Allen E.Rapid City
 Nord, Wesley J.Sioux Falls
 Nordstrom, Donald G.Sioux Falls
 Nussbaum, David.Sioux Falls

Oakland, James A.Sioux Falls
 O'Brien, Charles P.Sioux Falls
 O'Brien, Kristin.Rapid City
 O'Brien, Peter J.Sioux Falls
 Ochsner, John A.Sioux Falls
 O'Dea, Maureen T.Watertown
 Odland, Winston B.Aberdeen
 Oesterheld, Jessica R.Sioux Falls
 Oey, David L. T.Sisseton
 Ofstein, Lewis C.Sioux Falls
 Ohrt, David W.Sioux Falls
 Olegario, Filemon E., Jr.Mitchell
 Oliver, Donald E.Rapid City
 Olson, Jennifer J.Sioux Falls
 Olson, Michael L.Sioux Falls
 Olson, Paul J.Sioux Falls
 Olson, Steven P.Sioux Falls
 Olson, Thomas H.Vermillion
 *Opheim, Warren L.Sioux Falls
 Opheim, Warren O.V.Sioux Falls
 Oppenheimer, Mark.Sioux Falls
 Orr, Russell T.Sioux Falls
 O'Shea, Timothy T.Sioux Falls
 Ostby, Jason R.Watertown
 Ostrowski, Susan M.Eureka
 Ottenbacher, John.Selby
 *Owen, Gordon S.Rapid City
 Owens, Leicester, Jr.Sioux Falls
 Owens, Raymond.Pierre

Papendick, Lew.Rapid City
 Park, Dai H.Pierre
 Parker, Jeffrey C.Spearfish
 Parry, Rodney R.Sioux Falls
 *Pasek, Edward A.Sioux Falls
 *Patt, Walter.AR
 *Patterson, David M.Redfield
 Paul, K-Lynn.Sioux Falls
 Payne, Harlan A.Sioux Falls
 Pederson, Kim A.Sioux Falls
 *Peik, Donald J.FL
 Pekas, Michael W.Sioux Falls
 Penaskovic, Stephen G.Rapid City
 Perpich, Mark S.Watertown
 Pesce, Ulises.Pierre
 Peshek, Ramona.Watertown
 *Petereit, Martin F.Sioux Falls
 *Peters, Edward H.Sioux Falls
 Peters, Patricia A.Sioux Falls
 Peterson, Karl G.Sioux Falls
 Peterson, Kenneth B.Watertown
 Peterson, Linda R.Watertown
 Peterson-Henry, Terri A.Sioux Falls
 Picardi, Edward.Rapid City
 Pinter, Jeffrey D.Winner
 Pitt-Hart, Barry T.Sioux Falls
 Plummer, Richard L.Sioux Falls
 Polizzi, Raymond A.Hot Springs
 *Porter, Maynard.Parkston

Porter, Richard I.Fort Meade
 Potas, David G.Yankton
 Preston, Robert.Rapid City
 Preys, Michael C.Watertown
 Pueringer, Robert.Sioux Falls
 Purdy, Drew A.Rapid City
 Purintun, Scott.Britton
 Putnam, Wesley D.Sioux Falls
 Quinlan, E. Denise.Sioux Falls
 *Quinn, Robert H.Spearfish

Rabenberg, Rita.Sioux Falls
 Radack, Morris L.Yankton
 Ramirez, Dionisio R.Hoven
 Ramos, Manuel D.Scotland
 Ramsay, John D.Brookings
 Randall, Bradley B.Sioux Falls
 Ranney, Brooks.Yankton
 Rasmussen, Paul.Mitchell
 Raszkowski, Robert R.Sioux Falls
 Rath, G. Daniel.Canton
 *Reagan, James L.Sioux Falls
 Reaney, Duane B.Yankton
 Reaney, John A.Sioux Falls
 Reding, Arthur P.Marion
 Redmond, Warren J.Aberdeen
 Reed, Richard H.Huron
 Regier, Eugene R.Canton
 Reiffenberger, Daniel.Watertown
 Reiffenberger, Sarah.Watertown
 Renka, Richard P.Rapid City
 Renner, L. Mark.Sioux Falls
 Retterath, Patrick.Aberdeen
 Rey, Daniel A.Rapid City
 Reynen, Paul D.Sioux Falls
 Reynolds, James R.Sioux Falls
 Reynolds, Tom R.Sioux Falls
 Rezkalla, Maher.Sioux Falls
 Rhoades, Marques E.Yankton
 Richards, George A.Sioux Falls
 Richardson, James L.Sioux Falls
 Ridder, Glenn A.Sioux Falls
 Ridgway, Tim M.Yankton
 Ries, Dennis D.Freeman
 *Riesberg, Elsa.TX
 Rietz, Robert R.Brookings
 Rittmann, John E.Watertown
 Robbins, John K.Sioux Falls
 Roberts, Bob H.Spearfish
 *Roberts, Charles S., Jr.Brookings
 Roberts, Nancy A.Aberdeen
 Robinson, Michael.Sioux Falls
 Rodig, Mark.Sioux Falls
 Rodman, Peter K.Sioux Falls
 Rogotzke, Kenneth H.Watertown
 Rolfsmeyer, Eric S.Sioux Falls
 Rosario, Elmo J.Rapid City
 Roseth, Calvin.Watertown
 Rossing, David R.Sioux Falls
 Rossing, William O.Sioux Falls
 Rost, Michael C.Sioux Falls
 Rud, James A.Rapid City
 Rud, John M.Rapid City
 Ruggles, James.Yankton
 *Ruud, Edward T.Rapid City
 Ryan, James E.Sioux Falls

Ryan, John J. Sioux Falls
 Rydberg, Mitchel L. Dell Rapids

Sabow, John D. Rapid City
 Sahl, William J., Jr. Rapid City
 Salem, Anthony G. Sioux Falls
 Sall, John C. Sioux Falls
 Salmela, Steven R. Sioux Falls
 Saloum, Herbert A. Tyndall
 Samlowski, Ralph C. Yankton
 Sample, Richard G. Madison
 Sanchez, Gonzalo M. Sioux Falls
 Sanchez, Jorge D. Sioux Falls
 *Sanders, Mary E. Redfield
 Sanderson, Everett W. Sioux Falls
 Sandvik, David E. Rapid City
 Sanmartin, Jorge E. Rapid City
 Santella, Robert N. Sioux Falls
 Saoi, Nicasio B. Yankton
 Sarfarazi, Faith A. Brookings
 *Sattler, Theodore H. Yankton
 Saxena, Satish C. Brookings
 Saylor, Howard L., Jr. Huron
 *Schabauer, Ernest A. Mitchell
 Schad, C.S. Rapid City
 Schafer, Larry W. Sioux Falls
 *Scheffel, Alvin R. Redfield
 *Scheller, Donald L. Arlington
 Schellpfeffer, Donald Sioux Falls
 Schneider, Scott Sioux Falls
 Schramm, Melanie Winner
 Schroeder, Greg Sioux Falls
 Schroeder, Michael R. Sioux Falls
 Schroeder, Stephan D. Miller
 Schuft, James Sturgis
 Schultz, Gregory A. Sioux Falls
 Schultz, Richard D. Sioux Falls
 Schultz, Thomas A. Sioux Falls
 Schurrer, Michael Rapid City
 Schutz, Robert J. Rapid City
 Schwartz, John C. Watertown
 *Seaman, David Spearfish
 *Sebring, Floyd U. MN
 Seeman, Terry Watertown
 Seger, Yvonne B. Sioux Falls
 Seidel, Robert R. Sioux Falls
 Sejvar, Joseph P. Rapid City
 Seljeskog, Edward L. Rapid City
 Shafer, Charles Sioux Falls
 Shannon, Thomas H. Fort Meade
 Shaskey, Robert E. Brookings
 Shields, David Sioux Falls
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AMA Physician Recognition Award

Congratulations to the physicians in South Dakota who have earned the AMA Physician Recognition Award in the months of February, March, April, May, and June, 1994.

February

Thomas M. Wilson, MD* Sioux Falls

March

John B. Gregg, MD* Sioux Falls

April

Bradley B. Randall, MD* Sioux Falls Ronold R. Tesch, MD* Brookings

May

Steven A. Giuseffi, MD* Spearfish Bruce W. Keppen, MD* Aberdeen

June

Samir Abu-Ghazaleh, MD*	Sioux Falls	Jason R. Ostby, MD*	Watertown
Margaret R. Devick, MD*	Canton	Michael W. Pekas, MD*	Sioux Falls
Clark W. Likness, MD*	Watertown	Robert E. VanDemark, MD, Sr*	Sioux Falls
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THE SOUTH DAKOTA JOURNAL OF MEDICINE thanks these companies for advertising in this Journal.

CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 Credit Available Unless Otherwise Specified)

CME CONFERENCES

AUGUST 1994

- August 2 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- August 3 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Lawrence Newman, MD, Topic: Current Diagnosis & Treatment of Headaches, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 4 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 4 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- August 4 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 4 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 5 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- August 8 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- August 9 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- August 10 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- August 10 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- August 10 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Ralph Lazzara, MD, Topic: New Directions in the Treatment of Ventricular Arrhythmias, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 11 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 11 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 11 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- August 11 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 17 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: Clinical Pathology Conference, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 17 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced, Info: David Rossing, MD 331-3490.
- August 18 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 18 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 18 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- August 19 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- August 22 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- August 24 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- August 24 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- August 24 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- August 25 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- August 25 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- August 25 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- August 25 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- August 26 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- August 31 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Darlys R. Hofer, MD, Topic: Non-Surgical Management of BPH, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).

SEPTEMBER 1994

- September 1 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Drs J. Ruggles & R. Thompson, 665-9002.
- September 1 **Cath Conference** - 7:30 am, Sioux Valley Hospital, Info: Alice Glirbas - 333-2766.
- September 1 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

- September 1 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 1 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 2 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- September 2 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- September 6 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- September 7 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- September 8 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 8 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 8 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- September 8 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 8 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiopulmonary Dept, 339-8171.
- September 9 **Pathology Conference** - 12:30 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- September 9 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 12 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- September 13 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- September 14 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- September 14 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- September 14 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Walt Wilson, MD, Topic: Blood Born Pathogens, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- September 14 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- September 15 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- September 15 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- September 15 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 15 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 15 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.

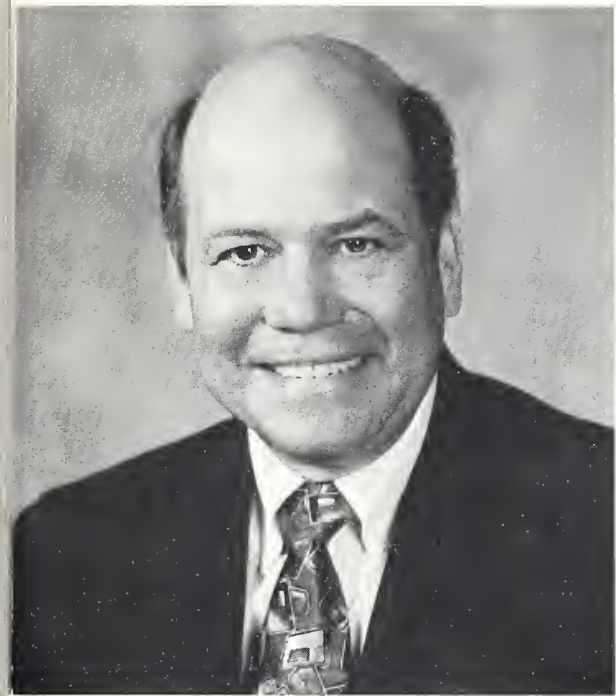
MISCELLANEOUS MEETINGS

SEPTEMBER

- September 10 **Parkinson's Disease**, Washington Univ Med Ctr, Wohl Auditorium, St. Louis, MO. Fee: \$35. 3.75 hrs AMA Category 1 credit. Contact: CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: 800-325-9862.
- September 16-17 **Primary Care Providers Role in Detection and Treatment of Cancer**, Northern Black Hills Holiday Inn, Spearfish, SD. 9 hrs AMA Category 1 credit. Contact: American Cancer Society, South Dakota Div, Rosemary Mose, Program Coor, 4104 Carnegie Place, Sioux Falls, SD 57106-2322. Phone: 800-237-2345.
- Sept 16-20 **International Conference on Physician Health - Stress: The Profession, The Family and You**, Ottawa Westin Hotel, Ottawa, Ontario, Canada. Fee: \$395. 21 hrs AMA Category 1 credit. Contact: AMA, Physicians Health Foundation, 515 N State St, Chicago, IL 60610. Phone: 800-621-8335.
- Sept 23-24 **The Lower Extremity Amputee: A Multidisciplinary Approach**, Mayo Foundation, Rochester, MN. Fee: \$300. 15 hrs AMA Category 1 credit. Contact: Rita Kunz, Secretary, Postgraduate Courses, Mayo Foundation, Rochester, MN 55905. Phone: 800-323-2688.
- Sept 26-Oct 1 **Emergency Medicine Review**, Univ Neb Med Ctr, Omaha, NE. Fee: \$750. Contact: Ctr for Cont Educ, Univ of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 800-642-1095.
- September 29 **Update in Obstetric Ultrasonography**, Marriott Hotel, Omaha, NE. AMA Category 1 credit avail. Contact: Sally C. O'Neill, Ph.D, Asso Dean, Creighton Univ CME Div, 601 N 30th St, #2130, Omaha, NE 68131. Phone: 800-548-2633.
- Sept 29-30 **Basic Colposcopy**, Holiday Inn East, St. Paul, MN. Fee: \$275. 14.25 hrs AMA Category 1 credit. contact: Registrar, CME, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: 612-221-3992.

OCTOBER

- October 6-7 **Primary Care Emergencies**, Holiday Inn East, St. Paul, MN. Fee: \$250. 13.75 hrs AMA Category 1 credit. Contact: Registrar, CME, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: 612-221-3992.
- October 7 **Annual Pediatric Day Conference**, Sioux Valley Hosp Auditorium, Sioux Falls, SD. Lawrence Wellman, MD, CME Prog Coor, or Joan Bevers, USD School of Med, 1100 S Euclid, Sioux Falls, SD 57117-5039. Phone: 605-333-7178.
- October 28 **Electrocardiography for Primary Care Physicians**, Mall of America Grand Hotel, Bloomington, MN. Contact: Off of Academic Affairs, Hennepin County Med Center, Dept of Internal Medicine, Div of Cardiology. Phone: 612-347-2075.



**James R. Reynolds, MD, President
South Dakota State Medical Association**

I recently communicated to the members of the ShareCare subcommittee of the State Medical Association that the ShareCare program was running effectively and the subcommittee could be terminated. It has been eight years since the inception of this program to provide affordable health care to low income elderly patients of South Dakota.

Dr Howard Saylor of Huron, South Dakota, brought this concept to Huron and with the help of Mr Ben Radcliff, then executive director of the Huron Senior Citizens Center, a pilot program was instituted in Beadle County. Applications were processed through the Senior Citizens Center by volunteers, and all of the physicians of Huron participated. Patients presented their ShareCare card at the time of their appointment and physicians agreed to accept Medicare payment along with any supplemental insurance, if the patient had such coverage, as payment in full. The program did not include hospital deductibles or out-of-town referrals. With the success of the Huron project, the past president of the State Medical Association, Dr Robert Ferrell, encouraged the House of Delegates at the 1987 annual meeting to proceed with a project. A resolution was subsequently passed by the House of Delegates to begin a state-wide program to identify and assist the low income elderly patients of South Dakota.

The ShareCare subcommittee was founded under the chairmanship of Dr Michael Ferrell. The committee worked closely with Barbara Thimsen, executive

director of the State Senior Citizens Center in Pierre. Enrollment was handled by the State Senior Citizens office until it closed in 1993, at which time applications were processed at the South Dakota State Medical Association office in Sioux Falls. Currently, Medicare patients are eligible if their annual income is less than \$11,040.00 for an individual or \$14,760.00 for a couple. In South Dakota, there are presently over 600 participating physicians and over 1,000 enrolled patients. The ShareCare program has been, and continues to be, a totally voluntary system without state or federal funding whose goal is to identify elderly residents of South Dakota who do not have the financial ability to pay for all of their medical expenses.

What effect health care system reform will have on the ShareCare program is unclear, but until such time as these changes are implemented, the program continues to function well in South Dakota. As physicians, we should continue to encourage our eligible patients to avail themselves of this opportunity.

I would like to extend my heartfelt thank you to Dr Tony Berg, the current ShareCare subcommittee chairman, and all other South Dakota physicians who have been a part of making ShareCare a successful program.

A handwritten signature in dark ink, reading "James R. Reynolds". The signature is fluid and cursive, with a large, stylized "J" and "R".

South Dakota Foundation for Medical Care

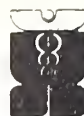
South Dakota Foundation for Medical Care (SDFMC), as the physician peer review organization for South Dakota, is responsible for improving quality of care for Medicare beneficiaries. This improvement occurs by SDFMC working cooperatively with medical and hospital communities.

Effective in July of 1993, the physician peer review program changed. Instead of focusing on individual physician and hospital errors, SDFMC began looking at patterns where improvement efforts would have maximum affect on improving areas of the health care delivery system. Though individual retrospective chart review is a part of the quality improvement process, emphasis is not on the outcome of each case, emphasis is on the pattern of care derived from the overall analysis of chart reviews.

Physicians and hospitals are always notified of the outcome of each of their cases when diagnosis/procedures, admission necessity, or quality of care are questioned by the physician adviser. An inquiry notice is sent to both the attending physician and the hospital requesting verification of any possible concerns.

It is not the intent of the individual chart review to result in action being taken toward any individual physician or hospital. It is the intent of the individual chart review to assume that any concern derived from the chart is reliable information and not just poor chart documentation. It is the intent of chart review to identify components of care and processes of care which can be improved. Through profiling the outcome of the reviews, patterns can be formulated and patient care improvement opportunities can be referred back to the appropriate medical and hospital communities.

Gerald E. Tracy, MD
Medical Director



The Case for Managed Cooperation (Not Competition): South Dakota Mental Health Linkage Project*

Vinod S. Bhatara, MD, MS, William C. Fuller, MD, Elwin R. Unruh, M.ED

ABSTRACT

Promotion of collaboration among rural health providers is a needed strategy to improve integration, accessibility, and quality of mental health care. To support this viewpoint, pertinent outcome data from the authors' South Dakota (SD) project is presented. The data indicated that the project was successful in improving coordination of mental health care in south-central South Dakota. The authors feel that rural mental health care reform should emphasize rural cooperation and not managed competition. They support the recommendation that any health care reform should include training funds for the health care providers from underserved rural areas.

A consensus has emerged that the U.S. health care system needs to reform. Nearly 60 different health care reform bills are being considered by the Congress.¹ Of these, the Health Security Act proposed by the Clinton Administration has received greatest attention. If passed, the bill would achieve the goals of universal access to health care in the environment of strict cost control by a managed competition model. However, it is not known if such a national plan will meet all of the health needs of rural South Dakotans.²

Many parts of rural South Dakota, both in general health and mental health, are disadvantaged by poor access to services.^{3,4} Collaborations and cooperation are more consistent with rural cultures, than is competition. Previously, solutions to the rural service deficit were based on rural "managed cooperation"⁵ rather than "managed competition".

Another reason for supporting rural health provider cooperation (in contrast to competition) is that the mental health component of the SD health delivery system is marred by fragmentation.⁶ More than half of the mental health services are provided by primary care

physicians.⁷ Yet coordination between the providers of mental health and general health care is minimal.⁸ The five "core" groups of mental health providers are: 1) licensed private mental health practitioners, e.g. psychiatrists and psychologists, 2) primary care physicians, 3) social service agencies, e.g. state social services, social workers in practice, and Lutheran Social Services, 4) substance abuse counselors, and 5) community mental health centers (CMHCs). Ten other health occupations, not traditionally labeled as mental health providers, occupy the second tier of the mental health services network. Figure 1 displays the mental health system as a communications network. Effective networking is obviously difficult.

With 15 entities involved in the SD mental health network, the total number of potential channels of communication [$n(n-1)/2$] required is 105. If, however, the mental health provider groups are organized into networks of teams, the number of channels in each work group may be reduced. (The exact number of potential channels of communication is determined by the number of people involved and the organizational design). Thus, reorganization of mental health systems into networks of collaborative teams can minimize fragmentation. Networks may be formal or informal, and include "linkages" and "alliances". They lead to increased access to mental health care in underserved areas.

*This study was supported by PCR&D, Grant 08-D-000164-03-0: Mental Health Linkage Project (U.S. Department of Health and Human Services-Public Health Service).

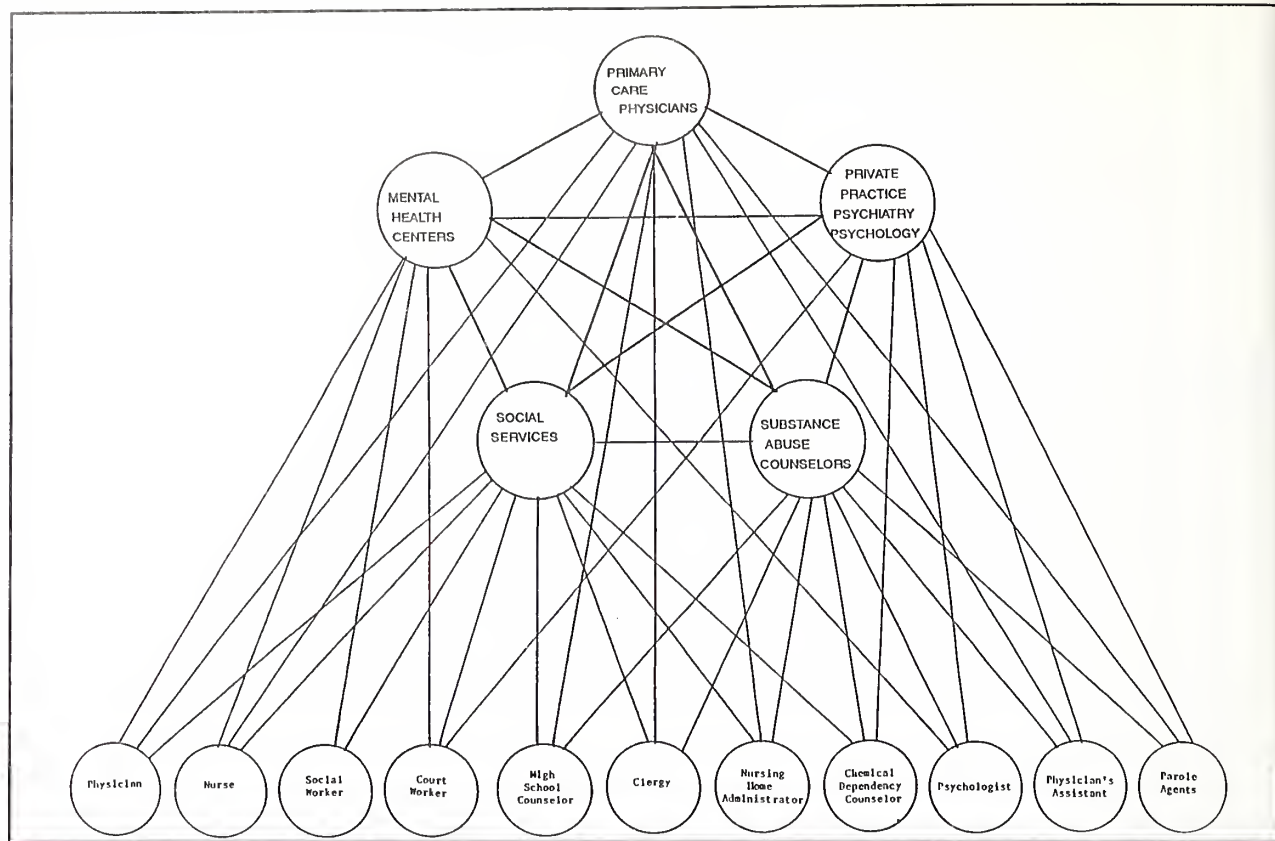


Figure 1

Information Exchange In Mental Health Field: Too Many Systems?

Several networking strategies have been described.⁹ For underserved rural areas, one strategy stands out: locally-planned interdisciplinary educational programs. Out of the four possible levels of change (knowledge, behavior, attitude, and organization), the authors selected improvement in knowledge via educational programs as the networking strategy of choice for three reasons. First, empirical evidence already exists that continuing educational programs, such as Area Health Education Centers (AHEC's), can be successful in reducing rural health service deficits.¹² Second, knowledge level change is the easiest and perhaps the most durable. In contrast to solutions which may require structural changes and loss of power, (e.g. administrative changes), educational programs are not politically-sensitive and are not resisted.¹³ Third, in a survey,¹⁴ rural mental health providers from south-central SD were asked to compare the effectiveness of four types of meetings in strengthening collaborations: (1) educational, (2) social, (3) administrative, and (4) case conferences. The subjects chose educational meetings most frequently.

The authors suggest that promotion of collaborations among rural health providers is a needed strategy to improve integration, accessibility, and quality of mental health care.⁹⁻¹¹ Guided by these principles, the authors developed and implemented the SD Rural Mental Health Linkage Project. The project was aimed at promoting collaborations among the mental health

providers of varying backgrounds through interdisciplinary educational programs. The project is described and pertinent outcome data are presented.

METHOD

Subjects and Design

The project aimed at selecting all mental health providers in the project area, which consisted of the catchment area of 4 CMHCs. Although 3 of the CMHCs are located in towns (Mitchell, Huron and Pierre) with population greater than five thousand, they serve a predominantly rural population. The fourth CMHC is located on the Rosebud Indian Reservation. Mailing lists were obtained from two sources. One source was from health provider organizations representing physicians, nurses, social workers, court service workers, parole agents, high school counselors, and physician assistants. Another source was the directors of agencies, such as CMHCs. Eleven hundred health care providers from 11 disciplines were identified.

The project design consisted of two surveys: baseline and a 3-year follow-up (outcome) survey. At baseline, survey questionnaires were sent to all health care providers identified. Three years later, the survey was repeated to the 463 samples that responded to the first survey. Of these, 284 (about 61%) subjects responded. These included: 14 physicians, 162 nurses, 28 social workers, 6 court service workers, 2 parole agents, 28

Table 1

Questionnaire Items Used to Measure Interprofessional Trust and Coordination

DIRECTIONS

Please answer each of the questions below by circling the appropriate number. The numbers beside each question represent points on the scale below.

Does not apply	0
Very Dissatisfied	1
Dissatisfied	2
Satisfied	3
Very Satisfied	4

a. How satisfied were you with the outcome of treatment from the following?

Alcohol/Drug Counselors	0	1	2	3	4
Primary Care Physicians	0	1	2	3	4
Mental Health Centers	0	1	2	3	4
Private Practitioners (Psychiatrist, Psychologist)	0	1	2	3	4
Social Services	0	1	2	3	4

b. How satisfied were you with the professional respect given to you from the following?

Alcohol/Drug Counselors	0	1	2	3	4
Primary Care Physicians	0	1	2	3	4
Mental Health Centers	0	1	2	3	4
Private Practitioners (Psychiatrist, Psychologist)	0	1	2	3	4
Social Services	0	1	2	3	4

c. How satisfied were you with the frequency of information exchange from the following?

Alcohol/Drug Counselors	0	1	2	3	4
Primary Care Physicians	0	1	2	3	4
Mental Health Centers	0	1	2	3	4
Private Practitioners (Psychiatrist, Psychologist)	0	1	2	3	4
Social Services	0	1	2	3	4

d. How satisfied were you with the quality of information exchange from the following?

Alcohol/Drug Counselors	0	1	2	3	4
Primary Care Physicians	0	1	2	3	4
Mental Health Centers	0	1	2	3	4
Private Practitioners (Psychiatrist, Psychologist)	0	1	2	3	4
Social Services	0	1	2	3	4

e. Overall, how satisfied were you in your relationships with the following?

Alcohol/Drug Counselors	0	1	2	3	4
Primary Care Physicians	0	1	2	3	4
Mental Health Centers	0	1	2	3	4
Private Practitioners (Psychiatrist, Psychologist)	0	1	2	3	4
Social Services	0	1	2	3	4

Instruments

Two instruments¹⁴ were developed for the project: (1) Job Satisfaction and Referral Questionnaire and (2) Training Needs Questionnaire. The Job Satisfaction and Referral Questionnaire is a 35-item instrument designed to collect data about health provider job satisfaction and attitude towards collaborations with other health providers. All of the questions were anchored on a 5-point Likert scale reading: Does not apply (0), very dissatisfied (1), dissatisfied (2), satisfied (3), and very satisfied (4). The questionnaire items used for measuring level of satisfaction with interprofessional trust and coordination of interdisciplinary referrals are displayed in Table I. The Training Needs Questionnaire is a 21-item instrument designed to determine the continuing education needs of the subjects.

Procedure (Educational Intervention)

Key people in agencies providing mental health care such as CMHCs and substance abuse facilities were contacted to involve their agencies in educational programs. Despite some initial hesitation, all of the agencies contacted decided to participate in the project. Next, participants were administered the instruments by mail or during the informational meetings to obtain a baseline measurement. With the cooperation of CMHCs, local inter-agency planning groups were developed. These groups discussed the needs for training, and developed specific workshops. Continuing education programs were planned by interagency and interprofessional cooperation.

Forty workshops were developed and presented to the health providers in their own geographic location. To ensure inclusion of individuals in the remote locations, some of the educational programs were presented in smaller isolated

communities, and several teleconferences were also conducted. The total number of attendance at these continuing education programs was 1097 (average attendance=27). The effectiveness of educational programs was tested using data from a workshop

high school counselors, 17 clergy, 9 nursing home administrators, 2 substance abuse counselors, 7 psychologists, and 9 physicians assistants.

Table II
Significant Changes From Baseline to 3-Year Follow-Up

Desired Change	Measures	Actual Change
Job Satisfaction and Referral Questionnaire Items**		
Enhanced interprofessional trust.	Treatment outcome, professional respect, and overall relationships.	Nine out of 15 items showed significant improvement ($p < 0.05$).*
Improved coordination	Information exchange-frequency Information exchange-quality	Significant improvement on all items ($p < 0.05$).*

*Values of t's and p's of individual items available on request.

**Displayed in Table I

evaluation questionnaire with a 5-point Likert scale. The ratings were favorable (mean = 2.79), suggesting effectiveness of the programs.

RESULTS

Paired t-tests were used to evaluate differences in the baseline and follow-up scores. Table II summarizes significant outcome data. Statistically significant improvements, over the 3-year period, occurred in both areas (interprofessional trust and coordination of referrals). Improved satisfaction was noted on several measures: frequency of information exchange, quality of information exchange, interprofessional trust, and coordination of interdisciplinary referrals.

DISCUSSION

These results lead to the conclusion that the educational intervention was effective, and the project was successful in developing collaborations. The results are consistent with the literature reports^{4, 9-11} that linkage are successful in improving coordination of mental health delivery. However, these conclusions can not be considered definitive. Because the results reported are from subjects who completed both the pre- and post-tests, it is difficult to be certain that the respondents were representative of the population of mental health workers in the project area. Also, other explanations of improvement during the 3-year project period (such as improved funding for mental health) are possible. Still, the data suggest that some of the improvement is probably due to increased interdisciplinary and interagency exchange facilitated by the project's education programs. Perhaps, when diverse health providers are educated together, they also learn to collaborate.¹⁵ This cooperative effort (networking) can lead to increased accessibility of services.

The effects of the SD project on the costs of service delivery is not clear. Economic integration (such as a

single payer system) parallel to service integration may be a complementary strategy worthy of study.¹⁶ The authors' experience is relevant to the many rural communities in the U.S. The authors propose that promotion of collaborations (linkages or networking) should receive serious consideration by mental health policy makers in the 1990's. At this point, networking appears to be one of the few organizational innovations that can improve mental health delivery along a number of dimensions affecting both quality and cost of care. In rural areas a distinction between a general health provider and a mental health provider is often difficult. Both general health¹¹ and mental health networking strategies should be further tested and compared with other methods of service integration. Finally, the results of this study support the recommendation that any health reform should include training funds for the health providers from underserved rural areas.²

ACKNOWLEDGEMENT

The authors thank Maureen Kaul for drawing Figure 1.

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REFERENCES

1. Ernst and Young: Health care reform: The Clinton plan. Washington, D.C. Ernst and Young 1994.
2. National Rural Health Association: National health policy reform: The rural perspective. National Rural Health Association, Kansas City, MO, Sept. 1992.
3. Health Resources and Services Administration: Seventh report to the President and Congress on the status of health personnel in the United States. DHHS publication No. HRS-P-OD-90-1.1990, Washington, DC, Supt. of Docs., U.S. Govt. Print. Off.
4. Wagenfeld M: Mental health in rural America: A decade review. *J Rural Health* 1990;6:507-522.

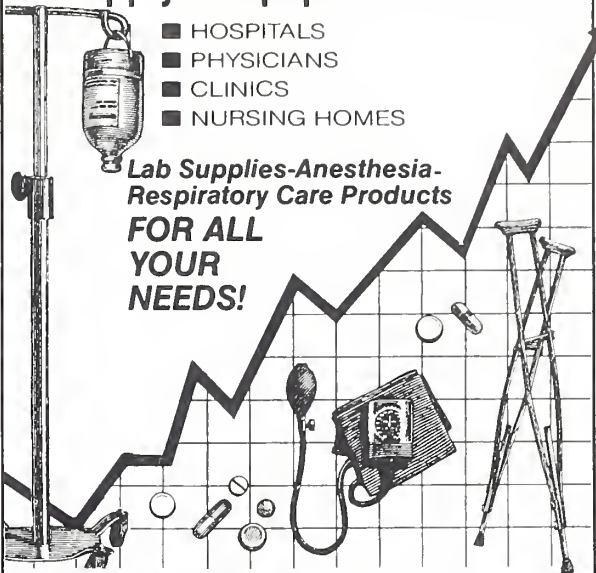
5. Cotton P: Rural reformers eye "managed cooperation". *J Am Med Asso* 1993; 269:1604.
6. Bhatara V, Fuller WC: Infrequent Interdisciplinary Information Exchange: A Major Barrier to Interprofessional Linkage? A paper presented at the 13th World Congress of Social Psychiatry, Nov. 11, 1992, New Delhi, India.
7. Goldberg ID, Taube CA: The DeFacto U.S. Mental Health Service System: A Public Health Perspective. *Arch Gen Psy* 1978; 35: 685-693.
8. Pardes H: Offsetting Cost of Health Care. *Hosp Comm Psy* 1981;32:295.
9. Burns B, Burke J, Ozarin L: Linking Health and Mental Health Services in Rural Areas. *Internat'l J. Mental Health* 1983;12:130-143.
10. Celenza C, Fenton D: Integrating Health and Mental Health Services - The Kennebec-Somerset Model. *New Directions for Mental Health Services* 1981;9:39-49.
11. Buseman S, Amundson LH: Rural health care networks in South Dakota. *SD J Med* 1994, 46: 361-363.
12. Fowkes VE, Campeau P, Wilson SR. The evolution and impact of the national AHEC program over two decades. *Academic Med* 1991; 66: 211-220.
13. Greenley JR: Clinical Training Funds Can Help Promote Needed Change. *Hosp Comm Psy* 1991; 42: 873.
14. Fuller WC, Bhatara VS, Ricci JS, LaPierre R., Pederson, C: Job satisfaction of central South Dakota physicians. *SD J Med* 1982,35, 7-11.
15. Sommer SJ, Silagy CA, Rose AT: The teaching of multidisciplinary care. *Med J Australia* 1992, 157: 31-37.
16. Bigelow DA, McFarland BH: Comparative Costs and Impacts of Canadian and American Payment Systems for Mental Health Services. *Hosp Comm Psy* 1989; 40:805-808.

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South Dakota Society

Of

Pathologists





Barbara McLean, MT (ASCP)

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They Better Do Something About It!

The above represents a general attitude toward many international, national, and local problems including contemporary problems in medicine exhibited not only by the national media but the rest of us as well. The above attitude is usually followed by "find someone to blame and stick it to him". Unfortunately, neither of the above is a rational way of solving any difficult problem. An article in March, in Newsweek magazine entitled "The End of Antibiotics" made the point, perhaps overzealously, that multiple drug resistance (MDR) by bacteria and other microorganisms is an ever pressing problem. There has been so much published recently about the prevalence of multiple drug resistant tuberculosis (MDR TBC) in medical and lay publications that hardly anyone can be unaware of the problem. However, there are a number of other common organisms which have acquired MDR and are more widespread than MDR-TBC. These organisms are not limited to tertiary care hospitals but are isolated from patients in community hospitals and from outpatients. As a matter of fact, MDR is a global problem. Therapeutic choices are becoming severely limited and selection of an appropriate antimicrobial agent requires more deliberation. Let us give a few examples:

1. **Staphylococcus aureus** - Almost all strains have been penicillin resistant for years. **MRSA or Methicillin resistant Staphylococcus aureus** actually describes a commonly isolated organism which is really only susceptible to the glycopeptides (mainly vancomycin). Even some of the newer quinolones which were hopefully to be of use have become increasingly ineffective against this organism. It is interesting that *Staphylococcus aureus* was the first organism against which penicillin was used but also one of the first organisms to become resistant to this wonder drug.

2. **Staphylococcus coagulase negative** - This organism can usually cause serious infections only in immunocompromised patients but is one of the most common organisms isolated from blood in such patients especially patients in the intensive care nursery. Again often only vancomycin is effective.

3. **Neisseria gonorrhoeae (gonococcus)** - Several mechanisms of resistance to penicillin and widespread resistance to tetracycline and spectinomycin are common. Frequent resistance to cephalosporins is not common yet but the appearance of such resistant strains would surprise no one.

4. **Neisseria meningitidis (meningococcus)** - Penicillin resistant strains have recently been reported and sulfa resistant strains are widespread. A vaccine against A and C serotypes has been effective.

5. **Streptococcus pneumoniae (pneumococcus)** - There is not only increasing penicillin resistance but also resistance to erythromycin, tetracycline, clindamycin, trimethoprim sulfa and even third generation cephalosporins in rare instances.

6. **Enterococci** - High level resistance to aminoglycosides, resistance to beta lactams (penicillins and cephalosporins) by production of the beta lactamase and resistance to vancomycin is now widespread. This is a very serious problem because there are no commonly used nontoxic drugs left in the armamentarium to treat vancomycin resistant enterococci.

7. **Enterobacteriaceae** - A broad spectrum of beta lactamases and other enzymes produced by this family of commonly isolated gram negative bacilli of which *Escherichia Coli* and *Klebsiella* are members, have exhibited resistance to aminoglycosides and beta lactam antimicrobial agents at an alarming rate. A particular problem here is some species of *Enterobacter* which have inducible beta lactamases. The organisms appear susceptible but large quantities of enzyme can be produced quickly causing resistance even during the course of therapy to certain cephalosporins. Resistance of *Salmonella* and *Shigella* to ampicillin, chloramphenicol, tetracycline, and trimethoprim sulfa is common but susceptibility to the quinolones is still excellent.

8. **Haemophilus Influenzae** - Many strains produce beta lactamase and are resistant to ampicillin and penicillins. Some strains resistant to chloramphenicol, tetracycline and trimethoprim sulfa have been reported. Fortunately, one of the great recent advances has been immunization against Type B encapsulated *Haemophilus influenzae*, a frequent cause of meningitis and other life threatening infections in children. The remarkable decrease in infections due to this agent has been one of the great triumphs of recent years.

9. **Pseudomonas aeruginosa** - Always has been resistant to multiple antibiotics and shows an uncanny ability to find ways to become resistant to any newly introduced drugs.

I have already mentioned but want to reemphasize that these MDR organisms are carried by the flux of patients between tertiary care hospitals, community hospitals, outpatient departments, nursing homes and day care centers. Now what can be done about the problem of MDR and who can do it?

Laboratory - Most of the resistances above can be detected by laboratory procedures but some of these procedures are not sensitive enough to detect all resistant organisms. Some of the substances causing drug resistance produced by these organisms are present in

only small amounts before exposure to the drug but are expressed at higher levels once the drug is introduced resulting in rapid development of resistance even when initial antimicrobial susceptibility testing indicates the organism is susceptible. However, the laboratory can provide appropriate testing to detect MDR when possible and the report should be provided as quickly as possible. The laboratory also should provide periodic information to the medical staff documenting the percentages of drug resistance and susceptibility of various organisms to common antimicrobial agents.

The physician prescriber - The physician should be aware of local resistance problems and the least toxic, least costly and most effective antimicrobial agent should be chosen after noting laboratory reports. Prophylactic therapy should be limited to those procedures and patients in whom infection is a significant problem. Drugs for prophylaxis should be given to attain maximum tissue concentrations at the time of the procedure and discontinued soon thereafter. Difficult as it may be, antibiotics should be given only to those patients with a high likelihood of bacterial infection. As mentioned before, a recent vaccine against the most virulent strain of *Haemophilus influenzae* has been very successful. There is a vaccine against pneumococcus for adult use as well. Making sure appropriate individuals receive this vaccine is now of increasing importance. The vaccine for meningococcus may be useful in limiting outbreaks. Appropriate use of the vaccines against the influenza virus should prevent resistant bacterial superinfections.

The medical staff - Periodic review of antibiotic use to include outcome analysis, appropriateness, cost, and potential impact on resistance of organisms in the environment should be carried out. The members of the medical staff must realize that this means some agents may be restricted.

Infection Control Committee - Surveillance of resistant organisms particularly in intensive care units can lead to a decline in drug resistant organisms if recognized body substance isolation techniques are enforced and spread of these organisms prevented.

The problem of MDR is serious but not hopeless. The body of the recent article in Newsweek does not really overdramatize the problem and we must change some of our previous ways of practice. The article is really worth reading for anyone. Our attention to this matter must be maintained and appropriate action must be continued.

John F. Barlow
Editor

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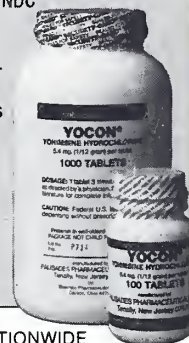
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

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References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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Medical Care and Medical Education in District VIII (Southeastern South Dakota) 1861 - 1950

Brooks Ranney, MD

MEDICAL PRACTICE

In the year 1857, the Yancton * tribe of the Dakota Sioux Indians ceded a large portion of what was to become southeastern South Dakota to the United States government. The tribe moved 50 to 100 miles west. Congress established the Dakota Territory to include the northern three-fifths of the Louisiana Purchase—350,000 square miles of land which would become South Dakota, North Dakota, Wyoming, Montana, part of Idaho, and slivers of Minnesota and Nebraska. President James Buchanan signed the Dakota Territorial law on March 2, 1861, two days before the end of his term.

There is some evidence that Mary Todd Lincoln's cousin, Captain J. B. S. Todd, a Democrat, was influential in having the primitive town-site of Yancton named the capital of the Dakota Territory by President Abraham Lincoln. Captain Todd owned much land here!

In May of 1861, President Lincoln appointed Dr William Jayne to be the first territorial governor. Dr Jayne, aged 35 years, had been personal physician to the Lincoln family in Springfield, and had served as Mayor of the city of Springfield, Illinois.

When Dr Jayne arrived in Yancton, in 1861, he found a rugged, frontier town of log cabins. He probably was not the only medical practitioner in the region, but there is no record of any other physician. There were no controls concerning the practice of medicine in the territory; Dr Jayne probably did care for an occasional patient when time permitted.

The Governor was a busy man. By July 22, 1862, the Yancton Weekly Dakotian records that Dr Jayne was a Republican candidate to become Delegate to Congress from the Dakota Territory. The Civil War was in its second year and the Sioux Indians were causing trouble for settlers on the frontier; by late August of '62, a large stockade was built in Yancton to protect settlers. On November 11, Governor Jayne was in St. Paul, Minnesota, making arrangements concerning the territorial portion of the military budget for the West.

On December 23, 1862, Governor Jayne presented his second annual message to the Dakota Territorial Legislature. He discussed the war, the Indian depredations, and actions of the Territorial Legislature, such as civil and criminal codes, militia, educational systems,

the courts, auditing of military accounts, and the probability that there was gold in the Black Hills. He recommended that a geological survey of the territory be made by the U.S. government. Dr Jayne returned to Illinois in 1864.

The first practice notice, found in the Yancton Weekly Dakotian in 1862, was that of Dr A. Van Osdel, who respectfully informed the citizens of Yancton and vicinity that he "understood the Indian system; can stop the toothache; cure hydrophobia; cure cancers; take poison out of snake bites, etc." That same issue of the paper carried this public health announcement, "Medicine, be it understood, will not remedy bad habits!" It would be difficult to state that basic principle more concisely.

Probably there were other medical practitioners in Yancton, because on January 18, 1864, Dr A. Van Osdel advertised that he, "Offers for sale his medicinares and entire apparatus, with the exception of an extra pair of forceps: as he has quit practice, except drawing of teeth, curing cancers, or curing ringworm or any eruption of the skin. If I fail to cure—no pay."

Most young doctors spent the years from 1861 through the summer of 1865 as military surgeons with the Army. This thinned the ranks of civilian practitioners. However, various "associations" and drug companies were quite willing to fill the void. One of the many advertisements in the Weekly Dakotian was placed by the Howard Association, which advertised that it was "A Benevolent Institution established by Special Endowment for the relief of the sick and the distressed, afflicted with Virulent and Epidemic Diseases, and especially for the care of Diseases of the Sexual Organs." The next page advertised HUMPHREY'S THERAPEUTIC SPECIFICS, which could be bought from James S. Foster. Each specific was boxed separately with directions. There were "specifics" to cure Fever, Worm Diseases, All Diseases of Infants, Diarrhea, Dysentery, Cholera, Coughs and Colds, Nervous Pain and Tic Doloraux, Headaches, Dyspepsia, Female Irregularities, Female Weakness and Leucorrhea, Skin Eruptions and Erysipelas, Rheumatism, Piles, Sore Eyes, Influenza, etc.

During Civil War times, few medical practitioners had more than a primary school premedical education, followed by 12 weeks of "medical school" lectures, or an apprenticeship. Conversely, by the time of World War I, most young doctors had two to four years of college preparation followed by four years of medical school

*Yancton was spelled "Yancton" until about the year 1864.

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education, and some had a year of postgraduate training in a hospital.

When the Civil War ended many doctors were released to seek civilian practices. About six months after the end of the Civil War, two different medical practitioners filed their brief notices under the heading of "New Advertising" in the *Dakotian*. On October 7, 1865, F. Wixson, MD, stated "Will attend to all professional calls with promptness and fidelity. Office at Vanderhule's Drugs Store". Dr Wixson practiced in Yankton for at least 15 years.

In the same issue of the *Dakotian*, M. Livingston, MD stated that he "Respectfully tenders his professional services to the citizens of Yankton and the surrounding country. Office and residence at the Ash House Hotel." Perhaps he was looking for more to do to keep him busy, because he also advertised that he "May be consulted at Fraley Hotel in Bon Homme, on or about the 15th or 18th of each month." (The community of Bon Homme disappeared many years ago from Bon Homme County.)

The October 14, 1869 issue of the *Dakotian* carried a new physician notice: "J. B. Van Velsor, MD, Physician and Surgeon, Office on 2nd Street, one door east of the Printing Office. Particular attention paid to fractures, dislocations and all surgical operations." Already doctors were tending to limit their practices to those problems or procedures in which they were trained or experienced, with which they thought they could usually obtain satisfactory results. Within a month, Dr. Van Velsor had taken an associate into his practice—H. A. Page, MD, but there must have been some fundamental differences of opinion between them. By March, 1870, we find that Dr Page had joined a Dr Owens in practice. Dr Van Velsor practiced in Yankton for a number of years, and was elected to be the second president of the Dakota Territorial Medical Society, 1883-85.

The newspaper notice of Drs Owens and Page is interesting. C. D. Owens had experience in St. Louis and wished to limit his practice to gynecology, surgery, and eye, ear, nose, and throat diseases. H. A. Page was fresh out of training, and preferred general practice and "diseases of childhood". Further, their notice stated "that the public may feel satisfied that every intelligent means of investigating disease will be employed that modern science supplies, it is but proper to state that we are in possession of a good microscope for the examination of morbid growths. Great care also will be paid to examinations of the eye, ear, and throat, in cases of disease, by the employment of instruments specifically designed for the purpose."

In December of 1869, Drs G. M. Congar and G. E. Moon formed a partnership which lasted only two months, after which Dr. Moon advertised a separate practice, "B. E. Moon, MD, will pay special attention to practical dentistry; all work warranted."

In August of 1870, a Dr. S. L. Nidelet, physician and surgeon, advertised "his office in the International Hotel, where he can at all times be consulted profes-

sionally." Over the next several years the number of practicing physicians in the region steadily increased.

We must assume that the modern, scientific efforts in medicine evolved within the so-called "eclectic" medical schools. Stedman's Medical Dictionary defines "eclectic" as "picking out from different sources what appears to be best".

By October 1, 1872, the Dakota Southern Railroad had a daily train which left Yankton at 8 am, stopped at Mission Hill, Gayville, Meckling, Vermillion, Burbank, Elk Point, Jefferson, and McCook, and arrived at Sioux City at 11:10 am. The same train returned to Yankton between 1:10 pm and 4:30 pm each day. No doubt this train brought patients to doctors, and doctors to patients.

Travel to the west or northwest was more difficult. One could ride on either of two stage lines: the Northwestern, or the Dakota Central, or one could book passage on competing steamboat lines which had been plying the waters of the Missouri River for years. The S. B. Coulson Line, alone, advertised regular schedules for six, shallow-draft steamboats: the Key West, the Josephine, the Carroll, the E. H. Durfee, the Far West, or the Western. Yankton was not only the Capital of the Dakota Territory, but it was the place where "Rail meets Sail"—a busy, booming, bustling, frontier town.

In 1874, the U.S. government sent General Custer in command of a 1000 man expedition to explore the Black Hills. This may have been a belated response to Governor Jayne's original request for geological exploration of the Dakota Territory. Dr J. W. Williams was the chief medical officer and botanist for this expedition.

The 1880 newspapers still contained plenty of suggestive and misleading patent medicine advertisements, such as "Gray's Specific Medicine: the Great English Remedy: an unfailing cure for Seminal Weakness, Spermatorrhea, Impotency, and all diseases that follow, such as Loss of Memory, Universal Lassitude, Pain in the Back, Dimness of Vision, Premature Old Age, and many other diseases leading to Insanity or Consumption, and the Premature Grave!"

Conscientious physicians were seriously disturbed by the poor quality of medical care which many people in Dakota Territory received. In 1881, after initial correspondence, several doctors met at Milbank to form the Dakota Territorial Medical Society, under the umbrella of the American Medical Association. Dr A. Grant, of Bath, was temporary chairman. Doctors attending from Yankton were McGlumphey, Etter, Van Velsor, Miller, and Brecht; from Marion, Dr Nutting; from Springfield, Dr Camp; from Elk Point, Dr Conley. Dr S. S. McGlumphey of Yankton was elected the first president, 1881-83; Dr J. B. Van Velsor of Yankton became the second president, 1883-85.

Twenty-five members attended the 10th annual meeting which was held in Yankton, May 20-21, 1882. Doctors toured the Dakota Hospital for the Insane, the public schools and Yankton College. It was decided to

publish a journal, "The Dakota Medical Brief". A committee was formed to maintain medical ethics among the members. Eight clinical practice committees were formed: Epidemic and Contagious Diseases; State Medicine and Hygiene; Practice of Medicine; Surgery; Obstetrics and Diseases of Women; Therapeutics; Diseases of Children; and The Fevers of the Missouri Valley.

In 1882, the society had recommended that the territorial legislature draft a bill regulating the practice of medicine and surgery and the qualifications of physicians. As a partial response, in 1885, the legislature created territorial and county boards of health. Still the society worried about the "problems of quackery in certain locations". With the attainment of statehood, in 1882, the name was changed to the South Dakota Medical Association.

Gradually the geographic area of District VIII evolved to include Yankton, Clay, Union and Bon Homme counties, and parts of Turner, Douglas and Charles Mix counties. Dr W. H. Tuckopp was the first physician to install a telephone, in 1883. That same year one could obtain a ticket from Yankton to New Orleans and return for only \$33.85.

Yankton served as the funnel through which most people arrived in the Dakota Territory. Most arriving doctors came here first; then many moved on. In 1885, the territorial government stipulated that each medical practitioner must have a territorial license. Many doctor applicants listed Yankton as their address; a few remained; many moved on.

What was medical practice like during the early decades of this century? Much care was provided in the patient's home, the doctors traveling by horse and buggy; later, by Model-T Ford, etc. When Dr Frank Abts came to Yankton in 1927, he worked at first with Dr John Trierweiler, a tough taskmaster, who often slept nights in his office so that he would be available for emergencies. During one winter storm, Dr Trierweiler sent Dr Abts out to Tabor on a house call. Dr Abts stuck his car in a snowdrift. He shoveled out and returned to Yankton. Dr Trierweiler was irate! He shouted that he had never accepted a house call which he did not complete! So Dr Abts rounded up a couple of his buddies, one of whom was Lawrence Welk. The three of them shoveled their way through the snowdrifts to Tabor, made the house call, stayed overnight, then returned to Yankton.

During World War II, most medical care in Yankton had to be provided by four doctors: Frank Abts, FACS; George Johnson; V. I. Lacey; Arthur Smith.

In 1948, physicians were still seeing patients in the office many nights until 9:00 pm; obstetric deliveries, day and night. Saturday was the busiest day of the week, and Sunday office hours had just been discontinued.

Among the 248 doctors who were licensed to practice medicine in District VIII (southeastern South Dakota) between the years 1885-1950, most are gone and a few are retired. Only two are known to still be in

practice: Arthur Reding, family practitioner for well over 55 years in his home town of Marion and Brooks Ranney, obstetrician-gynecologist, now practicing office gynecology and still teaching medical students in Yankton.

At first most certificates of licensure were simply granted to each doctor who appeared before the licensing agent with a diploma of graduation from a medical school. But, on May 14, 1888, one applicant must **not** have had a diploma, because the record reads, "License issued by order of Judge Bartlett Tripp!" In another instance, an Austrian doctor was licensed when he presented an affidavit that his diploma had been drowned in the Missouri River when a steamboat burned between Omaha and Sioux City.

By 1900, the South Dakota Board of Medical Examiners examined all applicants except those who were licensed in another state with which South Dakota had reciprocity. Applicants were not all successful. Between 1903 and 1905, 23 applicants failed their exams. Four withdrew from examinations; three were licensed after a second exam, and one after a third exam.

Still more recently, in a further effort to exclude poorly trained professionals, all medical practitioners had to pass a basic science exam before they could apply to take medical practice exams. The first, and for several decades, the only secretary for the South Dakota Basic Science examinations was Dr Greg Evans, Professor of Chemistry for many years at Yankton College.

Among the 114 applicants for medical licensure from Yankton, between 1885 and 1900, there were half a dozen women. One of these, Dr Jennie C. Murphy, came to Yankton in 1893. Soon she sold her horse and buggy and drove one of the earliest automobiles in Yankton. She became Yankton County Coroner; later, Yankton City Street Commissioner. She retired in 1922, but lived to age 94, dying in 1959.

HOSPITALS

In 1894, a number of wives and mothers in the Yankton community organized and administered Yankton's first hospital. One wonders if Dr Jennie Murphy may have initiated this effort. A Constitution and By-Laws were assembled, adopted by the group and signed by 27 ladies on January 5, 1895. The stated purpose was "the nursing, care and cure of the sick and wounded, and the care of persons under surgical treatment". Dues were \$1.00 per year. Mrs Mathilda Poore was hired to manage this first Yankton Hospital, in a building on the northeast corner of 4th and Walnut. It was named Swearingen House. In 1895, finances were supplemented by monthly subscriptions from various Yankton citizens. In 1896, the Yankton City Council voted a \$15.00 per month subsidy. By 1897, the hospital was self-supporting. "Rules" of this hospital are listed below. They include "no smoking or spitting in the building." Board members names included Mesdames Dickson, Burleigh, McVay, Wilcox, Dolan, Ward, Hand, and Kingsbury. During three years, 1895-98, 51

RULES FOR THE YANKTON HOSPITAL

1. Patients shall be admitted to the Hospital only upon a certificate from any of the attending Physicians and approval of one of the directors, except in case of sudden illness or injury.
2. Persons afflicted with contagious diseases shall not be admitted to the Hospital.
3. Patients admitted to the Hospital are charged at the rate of \$1.00 per day, unless otherwise provided by special resolution of the board.
4. Patients will conduct themselves respectfully toward the matron, officers, and employees of the Hospital.
5. No profane or indecent language shall be allowed in the house. No smoking allowed. No spitting on the floors.
6. No liquors, provisions or medicine of any kind shall be brought to the patients from friends outside without special permission.
7. Patients are forbidden visiting each other, and patients and inmates are not allowed to go into the kitchen or other rooms without special permission.
8. Only one visitor is allowed at one time in the room of a patient.
9. For general purposes, Thursday shall be visiting day.

patients were served, of whom ten were charity patients. There were four deaths. When the hospital closed, there was a balance of \$46.21. Equipment was donated to the new Sacred Heart Hospital.

The first 30-bed Sacred Heart Hospital opened November 4, 1897 in a remodeled building which had been erected originally in 1880 as a girl's academy, and had been used more recently as a school for Indians.

Concerning the 1890's, Dr S. M. Hohf has written, "When Yankton's hospital opened in 1897, the city had the following businesses: a packing plant, two brick manufacturing plants, a linseed oil mill, a broom factory, a woolen mill, a large flour mill, two breweries, a large cement plant, an art-turning shop, two newspapers, 40 saloons, several gambling dens, two red-light districts and a street-car line operating on Douglas Avenue from Main Street to the cemetery."

A new Sacred Heart Hospital was built between 1912 and 1915. Further additions, in 1929 and 1940 increased the bed capacity to 250. Another addition was extended east in 1964. Then, a completely new hospital building was constructed in 1981.

The Dakota Hospital for the Insane had been constructed two miles north of Yankton. It was made of wood and it burned in 1882. Thereafter, stone and brick buildings were used at the State Hospital. In the late 1940's it had a capacity of about 2200 beds.

During these same years, smaller hospitals had been built or expanded, chiefly with Hill-Burton funds in

Vermillion, Viborg, Freeman, Scotland, Tyndall, Wagner, Armour and Platte for the convenience of local patients. Likewise, the U.S. Public Health Service built and staffed the Wagner Indian Hospital.

CLINICS

The first building in Yankton, which was constructed specifically for clinical care of outpatients, was built in 1914 on the northwest corner of 4th and Douglas by Drs S. M. and J. A. Hohf. Probably Dr C. C. Gross and other doctors also saw patients there.

The second clinic building, constructed specifically for patient care in Yankton, was built on the northwest corner of 4th and Park. It was named the Yankton Clinic and was completed by Drs Frank Abts and C. B. McVay in 1946. By 1948, Drs R. F. Livingston, T. H. Sattler and Brooks Ranney had joined the Yankton clinic; later the building was expanded to include a dozen other doctors.

More recently, since 1981, more than 30 practicing physicians in Yankton have joined together in the Yankton Medical clinic located at 1104 West Eighth Street.

MEDICAL EDUCATION

The University of South Dakota School of Medicine at Vermillion is one of the oldest medical schools in the U. S., having been in continuous operation for the past 87 years. The two earliest graduates were Dr Hare, Spearfish and Dr Alton Ocsner, New Orleans. During the first 65 years it was a two-year school; basic sciences and some clinical courses were studied. Doctors from Yankton and Vermillion taught beginning clinical courses. In 1946, Dr C. B. McVay became Professor of Surgery and Anatomy. In 1948, Dr T. H. Sattler became Professor of Internal Medicine and Dr Brooks Ranney became Professor of Obstetrics and Gynecology. Within several years, Dr Willcockson was teaching ophthalmology, Dr Livingston was teaching urology, Dr Stanage was teaching pediatrics, Dr Steele was teaching radiology and Dr Tidd was teaching pathology. Each medical student spent one summer month, after the sophomore year, with an assigned practicing physician throughout the state. During their sophomore year the medical students were transported by bus to Yankton for clinical instruction all day Thursday and on Saturday mornings.

POSTGRADUATE MEDICAL EDUCATION

The first two-year internship in South Dakota was established at Sacred Heart Hospital in Yankton, in 1950. During the 1950s residencies were established for board specialty training in the areas of surgery, obstetrics-gynecology and internal medicine. This, likewise, was an effort to retain more of our medical graduates in practice within the state of South Dakota.

REFERENCES

1. Microfilm copies of the *Yankton Weekly Dakotan*, 1861-1875.
2. Microfilm copies of the daily *Yankton Press and Dakotan*, 1875-1900.
3. Original ledger records of the South Dakota Board of Medical Examiners, 1885-1950.
4. Constitution, By-Laws and Business Ledger of Yankton's first city hospital (Swearingen House) 1895-1898.
5. *Yankton Centennial Book*, by Don Allan.
6. The History of the South Dakota Medical Association, 1882-1956.

Editor's Note About the Author

Brooks Ranney graduated from Oberlin College in 1936, and completed medical education at Northwestern University Medical School in December, 1939. After a rotating internship at Wesley Memorial Hospital, Chicago, in 1940, he started residency training January 1, 1941 at Chicago Lying-In Hospital, until July 25th, when he became a Medical Officer in the United States Army (Europe) for 50 months. After World War II, he completed residency training at Wesley Memorial Hospital, and earned a Master of Science degree in Physiology at Northwestern.

October 1, 1948 Dr Ranney joined the Yankton Clinic. Additionally since 1948, he has taught obstetrics and gynecology at the University of South Dakota

School of Medicine, organizing the major teaching since 1948 as Clinical Professor, and holding the rank of Professor since 1981. In 1955, Dr Ranney instigated the Residency Training program in Ob/Gyn at Sacred Heart Hospital in Yankton (with several other hospital affiliations); he directed the residency program for 25 years. Dr Ranney continues to practice office gynecology and to teach medical students. He has written 75 medical articles, reporting on his basic and clinical research, and three books.

As part of his research for the present article, Dr. Ranney constructed a number of appendices which are available to anyone wanting further details about the historical development of the VIII District. These appendices include: 1. a list of the VIII District physicians who have served as President of the South Dakota State Medical Association (eighteen have served since 1881); 2. a list of the physicians licensed to practice medicine in District VIII from 1885-1950; 3. a listing of physicians licensed to practice medicine in District VIII communities east of Yankton from 1885-1950; 4. a list of physicians licensed to practice medicine in District VIII towns west of Yankton from 1885-1950. These latter lists include the physician's year of graduation and medical school.

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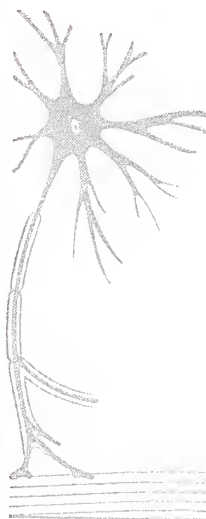
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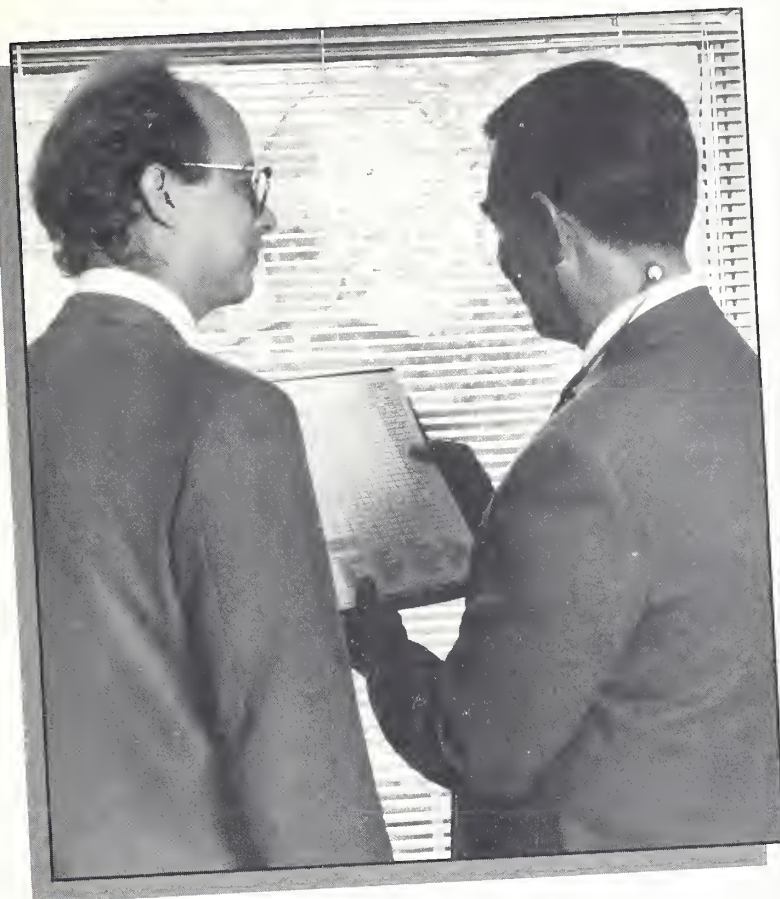
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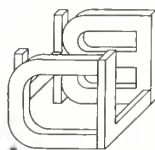
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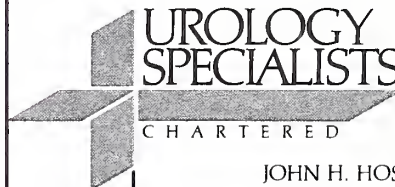
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Adverse Drug Reactions in Children

Helen Fiechtner, Pharm. D., Sioux Falls

"Children are not little adults" is a phrase often used to describe medication dosing in the pediatric population because doses are determined by body size, age and level of organ maturity. This statement can also be applied to adverse drug reactions (ADRs) in children. While most ADRs are the same when comparing adult and pediatric patients, children do have some unique reactions because their bodies are growing and developing.

Developmental adverse drug reactions are due to physiological and/or organ maturity differences in children. These processes are changing throughout childhood and as the child's body grows and matures, the incidence of various developmental ADRs also change. Well known to cause developmental ADRs, tetracycline can cause delayed bone growth, enamel hypoplasia and discoloration of teeth when it is given during pregnancy or childhood. In the neonate, sulfisoxazole displaces bilirubin from albumin, which leads to an increase in unbound bilirubin. If the unbound bilirubin is high enough, kernicterus can develop. Ciprofloxacin and other fluoroquinolones have the potential for cartilage damage in growing children and should be avoided until skeletal growth is completed.

Closely related to developmental ADRs are the adverse drug reactions seen in children due to increased sensitivity to the actions of the medication. Dopamine antagonists, such as metoclopramide (Reglan), prochlorperazine (Compazine), haloperidol (Haldol), and chlorpromazine (Thorazine), produce acute dystonic reactions more frequently in children and adolescents than in adults. Because of the increased risk of acute dystonic reactions in children, many physicians avoid the use of prochlorperazine (Compazine) in pediatrics. Verapamil should not be administered to infants less than one year because of the risk of acute severe cardiorespiratory failure in this age group. Another unfortunate ADR is the increase incidence of hepatotoxicity associated with the use of valproic acid in children less than two years.

Dose-dependent toxicities can occur more frequently with some medication in the very young if the decreased clearance of that medication is not considered in dosage determination. In the past, standard pediatric doses (in terms of mg/kg) of chloramphenicol were given to neonates and this led to many cases of Gray Baby Syndrome, characterized by ashen color, abdominal distention, vomiting, hypothermia, irregular respirations, progressive pallid cyanosis, and circulatory collapse and death. Neonates cannot

metabolize or renally excrete chloramphenicol optimally and the increased serum levels lead to this syndrome. Benzyl alcohol, a frequently used preservative in parenteral products, was linked to a gasping syndrome in neonates. Gasping syndrome is characterized by severe metabolic acidosis, CNS depression, respiratory failure and cardiovascular collapse. Neonates have a decreased clearance of benzoyl alcohol and the large amounts received by some neonates resulted in the gasping syndrome. Too much diazepam given to the mother before birth or to the neonate can lead to floppy infant syndrome because of reduced clearance of diazepam in the newborn.

While children may be at an increased risk for some ADRs, they also have a decreased incidence of some other ADRs. Isoniazid (INH) causes less hepatitis in children and the reason for this decrease is unknown. Halothane hepatotoxicity appears to be extremely rare in children and the protective mechanism is also unknown. The amount of acetaminophen, on a per kilogram basis, needed to cause hepatotoxicity is higher in children than adults. Children younger than nine years metabolize acetaminophen by conjugation with sulfates as well as glucuronidation, and this may be the protective mechanism. Alternatively, children may have increased availability of glutathione which is used to detoxify the toxic metabolites. While children usually need higher doses of acetaminophen per kilogram for hepatotoxicity in overdoses, children still need to be treated according to the Rumack nomogram or when 150 mg/kg or more has been ingested. Aminoglycosides result in a lower incidence of ototoxicity and nephrotoxicity in children and infants, but therapeutic drug monitoring is still required to minimize these ADRs.

"Children are not little adults" applies both to medication dosing and adverse drug reactions. Health care providers need to be aware that children may have unique adverse drug reactions, and be prepared to avoid them.



Edited by Brian Kaatz, Pharm.D.



Correspondence

To: Jenny Menke, Pharm.D

I read with interest your article on anticoagulation update in the July issue of this Journal. I found it a most interesting article and agree with the conclusions.

However, I believe there is a misunderstanding that could arise in the last paragraph of the article. The prothrombin time test (PT) is still used to monitor Warfarin therapy. What has changed is the manner in which the test is reported. The PT can be reported in either seconds or as the INR. It is generally accepted that both of these be reported to the physician because the use of the INR is most useful if the patient is on Warfarin therapy and the seconds may be useful for other uses of their prothrombin time such as measuring liver function or as a screen for coagulation.

I'm glad to have you bring up this very important issue again in the Journal as I wrote an editorial some-time ago about this. It is a most timely and important topic.

Sincerely,

John F. Barlow, MD
Pathologist and Editor, SDJM

To: Jerome W. Freeman, MD, Editor

We wanted to comment on the article "On Consumption" by yourself and "Mycobacteria and Tuberculosis Epidemiology in South Dakota" by Debra Iverson that was published in the March 1994 South Dakota Journal of Medicine.² Your editorial summarizes the importance of prevention in regard to tuberculosis and HIV infections as well as other aspects of health. Ms Iverson's article points out the importance of reactivation tuberculosis in the elderly as a factor in the epidemiology of tuberculosis as well as concerns regarding extra pulmonary tuberculosis.

The purpose of our letter is to point out three things as follows:

1. The increase in TB cases seen in 1991 and 1992 has not persisted in 1993 with only sixteen cases being reported state-wide,³ second lowest total with fourteen being reported in 1990. As we get closer to the goal of eliminating TB in South Dakota, there will undoubtedly be some ups and downs in the year by year incidence mostly due to chance.
2. Ms Iverson did not present any information on the racial distribution of the TB cases. Over half of the TB cases in South Dakota occur in the American Indian population. Fortunately, rates in the Indian population have decreased by over fifty percent since 1988 to a rate of 19.8 per hundred thousand, while the rates in the white population have remained consistently at 1 per hundred thousand.
3. Systematic tuberculosis prevention and control activities are likely responsible for the reduction in rates of TB morbidity among Indians. Indian Health Service, South Dakota Department of Health and tribal health staffs have worked cooperatively to identify high risk patients who would benefit from INH preventive therapy and have provided such therapy to large numbers of patients. Diabetes and end stage renal disease have been found to be important risk factors in the South Dakota Indian population.⁴

Over one-third of American Indians, aged 45 and over who live in South Dakota, have diabetes and rates of end stage renal disease are also high with over 100 patients on dialysis in the four-state region of the Aberdeen Area Indian Health Service (North and South Dakota, Iowa and Nebraska.) It is likely that part of the increase in TB cases seen in the state in 1991 and 1992 is due to the epidemic of diabetes that is afflicting the American Indian population rather than the epidemic of AIDS. The efficacy of providing INH prevention therapy to diabetic patients and patients with end stage renal disease of any age has been well-documented and clinicians are encouraged to incorporate tuberculin testing and INH preventive therapy into their routine practice for such high risk groups. The IHS Standards of Care for treatment of tuberculosis include tuberculin testing and INH preventive therapy for all diabetic and end stage renal disease patients who have positive tuberculin skin tests.⁵

While we are fortunate not to have had any HIV-associated TB cases and multiple-drug resistance has not been a problem, we need to be on constant vigil to respond to such problems should they arise.

Thomas K. Welty, MD,
Aberdeen Area Indian Health Service
LaJean Volmer
SD Department of Health

REFERENCES

1. Freeman JW: On Consumption, *SD J Med* 1994;47:79-80.
2. Iverson DA, Hurley B, Pueringer R: Mycobacteria and tuberculosis epidemiology in South Dakota. *SD J Med* 1994;47:81-84.
3. South Dakota Department of Health. 1993. South Dakota tuberculosis morbidity. *SD Dept of Health Public Health Bulletin*, Feb, 1994;VI,2.
4. Mori MA, Leonardson G, Welty TK: The benefits of isoniazid chemoprophylaxis and risk factors for tuberculosis among Oglala Sioux Indians. *Arch Int Med*, March 1992;152:547-550.
5. Welty T: IHS standards of care for tuberculosis; INH preventive therapy. *Primary Care Provider* 1989;14:54-58.



**Helen Owens, President, South Dakota
State Medical Association Alliance**

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Author unknown

I want to communicate forcefully to each of you where the South Dakota State Medical Association Alliance stands. We stand proudly with you!! We will speak and act in firm support of the fine and committed physicians of South Dakota. We want to assist you in promoting your interests in any way that we can. Please remember to include us in furthering your legislative interests. Political friends and allies may change, but our commitment remains, as it always has been, to you!

Helen Owens

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Where Do We Stand??

On August the ninth, I stood with my family in the Senate Reception Room of the United States Capitol. An old family friend who works at the Capitol was giving us a very special tour. Around us stood many familiar faces from the television screen. I was privileged to speak to several senators, including both our South Dakota senators. Congress was in an unusual August session and this was the first day of the health care debate in the Senate. Soon, each senator will have to make a decision about where they stand on this issue.

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- Design flow of information processes so that physician orders are managed appropriately within and among each clinic.
- Implement a management information system to facilitate retrieval, monitoring and evaluation of patient data for all clinic locations.
- Establish written guidelines for scheduling appointments including: identifying a patient's primary clinic, informing the patient of the

physician's clinic hours, specifying the clinic at which the appointment is scheduled and outlining the process for following up on missed or canceled appointments.

- Ensure that physicians and staff promptly respond to telephone calls from patients.
- Make sure that original clinical records are not removed from the clinic where they are filed under any circumstances, except when records are subpoenaed by the courts, which may not accept copies for the record.
- Establish written guidelines for making copies of clinic records readily available to physicians regardless of where the patient is seen.
- Maintain complete clinical records regardless of the number and location of clinics where patients receive care.
- Develop a system for monitoring and assessing quality of care and patient satisfaction.

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Hospital Medical Staff Section 24th Assembly Meeting December 1-5, 1994 Sheraton Waikiki Hotel Honolulu, Hawaii

Representation Education and Networking

Send a representative from your hospital medical staff and physician organization to the 1994 Interim American Medical Association Hospital Medical Staff (AMA-HMSS) Assembly Meeting held on December 1-5 in Honolulu. Aside from participating in the development of AMA policy, representatives will have an opportunity to network with colleagues, dialogue with the AMA Board of Trustees, and hear the latest news and information on health system reform.

With a changing health care environment, broader diversity within the physician population, limited resources, and an overriding need for unity of purpose and action by organized medicine, the AMA has undertaken a study of the Federation.

Federation Consortium Study

The study, involving county, state and specialty societies, the AMA, and other related organizations intends to uncover useful information for developing ways to increase membership, member participation, and advocacy as well as improve communications, medical society performance, and resource utilization.

Project leaders have asked the AMA-HMSS to participate in the process because it effectively represents grassroots physician concerns. Input from each HMSS representative also will be extremely valuable in defining organized medicine in the future.

The 1994 Interim AMA-HMSS Assembly Meeting Education Program will host the Consortium study. Data collected and analyzed will facilitate the following objectives:

- Identify current and future needs, expectations, and preference of physicians and others for organized medicine;
- Explore membership ideas and options;
- Assess how medical societies relate to each other—including ways to be more supportive, avoid duplication of effort, leverage strengths, and better address weaknesses;
- Discover whether there are better tools/technologies that medical societies can use to communicate with one another and their members; and
- Enable medical societies to work smart in a more focused and purposeful way.

Plan to participate in the Federation Consortium on Friday, December 3 from 2:30 to 5:30 pm in Honolulu, Hawaii. Mahalo!

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South Dakota Medical School Endowment Association Background Information 1949 - 1993

Board of Directors: T. H. Sattler, MD, Warren Jones, MD, Bruce Lushbough, MD, Bruce Allen, MD, Robert R. Giebink, MD, Howard L. Saylor, MD, Joseph N. Hamm, MD

INTRODUCTION

Inasmuch as many physicians in South Dakota have contributed to the South Dakota Medical School Endowment Association over the years, the Board of Directors recommended this brief history be published. This explains the Endowment Association since its inception, the growth that has occurred during its 45 years in existence, and the impact it has had on the University of South Dakota School of Medicine and its students.

The Certificate of Incorporation was issued to the South Dakota Medical School Endowment Association on November 10, 1949: No. 9225A. The Articles of Incorporation adopted by the Board at their first meeting on September 9, 1950 included:

Purpose: To aid and support medical research, medical teaching and medical education at the University of South Dakota School of Medicine, and to that end may,

- a) receive, acquire, own or hold in trust any property, real or personal, by grant, assignment, transfer, gift, bequest, devise or any other method or means;
- b) purchase, take by devise, bequest, gift, grant, lease or other conveyance, any and all kinds of property, real or personal, and mortgage, sell, lease or convey the same or any part thereof;
- c) make scholarship awards, to give prizes for scholarships to establish and maintain fellowships, and loan money to needy and worthy students;
- d) conduct research of all kinds, consistent with the objectives of said School of Medicine, paying the necessary compensation and expenses thereof out of the funds of this corporation.

The original directors (7) included:

Donald Slaughter, MD, Vermillion, SD, Sec/Treas
L. J. Pankow, MD, Sioux Falls, SD
William Saxton, MD, Huron, SD, President
F. R. Williams, MD, Rapid City, SD
H. Russell Brown, MD, Watertown, SD
C. B. McVay, MD, Yankton, SD
Faris Pfister, MD, Webster, SD

The first contribution: \$500 from Byron L. Sifford, a Sioux City, Iowa, attorney, was received in March 1950. (His son completed two years at USDSM)

In 1948 Governor George T. Mickelson suggested to the Committee on Medical School Affairs of the South Dakota State Medical Association that it might be feasible and desirable for the physicians of the state to express a personal interest in medical education in South Dakota. As a result of a later conference between Governor Mickelson and the committee, plans were proposed and the South Dakota Medical School Endowment Association was formed.

Initial contact with medical students was the authorization of a memorial lecture to be given at the University of South Dakota School of Medicine. The Endowment covered the \$50 in expenses incurred for this lecture. The Board selected Dr J. C. Ohlmacher to deliver the first lecture. The \$50 was donated by Mr Joe Messer of Watertown, an associate member of the Board. The Board asked prominent laymen and physicians to become Associate Members of the Endowment, and the first associates were:

Governor George T. Mickelson
Frank S. Howe, MD, Deadwood, SD
Robert Lamont, Aberdeen, SD
Lyle Hare, MD, Spearfish, SD
Guy Harvey, Yankton, SD
George Jordan, Vermillion, SD
Guy Bjorge, Lead, SD
George Stevens, MD, Sioux Falls, SD
Joe Messer, Watertown, SD
E. A. Pittenger, MD, Aberdeen, SD
Pierce McDowell, Sioux Falls, SD
T. F. Riggs, MD, Pierre, SD

Some of the very early gifts received were as follows:

Paul Bunker, MD	\$22
Will Donahoe, MD	\$50
George Whitson, MD	\$100
Lyle Hare, MD	\$50
Joe Messer	\$100
George Jordan	\$50
C. B. McVay, MD	\$100

As of June 1951, the Endowment Association had a total of \$1,345.70 in funds.

The first loans were issued in 1953 to:

Marvin Randahl	\$150
Ralph Tieszen	\$300

From its inception in 1949 to the present date contributors who have given over \$5,000 include:

T. H. Willcockson, MD	Robert Hayes, MD
B. J. Begley, MD	Helmuth Hoff, MD
R. R. Giebink, MD	T. H. Sattler, MD
J. B. Gregg, MD	H. L. Saylor, MD
William Taylor, MD	

Restated Articles of Incorporation and amended Bylaws were approved by the Board in 1965; however, the purpose of the organization remained the same. The provision for associate members was eliminated.

In 1965 the Endowment received the quit-claim deed for the Stansbury property. Because this property failed to generate income as outlined in the trust, in 1968 the Board petitioned the court for permission to sell the property and in 1974 it was sold to the University of South Dakota.

In 1965 loans to medical students were limited to \$500 per year per student with a total loaned per student of \$1,500 at 4 percent interest. In 1967 the Endowment Association first allocated funding (\$5,000) to the University of South Dakota School of Medicine to be used in the 9 to 1 federal matching program. In 1973 loan limits were increased to \$750 with a total per individual of \$2,500. This was increased to \$1,000 with a total of \$4,000 in 1974, and the interest rate was increased to 6 percent where it remains today. In 1975 this was increased to \$1,500 per year per student. In 1979 the total loaned to an individual student was set at \$4,000. In 1989 loan limits increased to \$1,500 per year with a maximum of \$6,000 to one student.

In 1968 the Endowment Board voted to pay one-half the Blue Cross-Blue Shield premium for each full time faculty member at the University of South Dakota School of Medicine. This continued for several years.

The Board sponsored its first Medical School Recognition Day on September 26 and 27, 1969. This included a scientific program, a social hour and dinner with a tour of the new medical school addition, dedication, lunch and a football game. All sponsoring members (donors of \$100 or more) could attend the Medical School Recognition Day at no charge. This event was held through 1971; in 1972 it was moved from September to April; in 1973 to May; and in 1975 it returned to the fall.

In 1970 the Endowment Association purchased an Ampex color conversion unit at a cost of \$28,500 for lease by the medical school. Also in 1970, the Endowment authorized the purchase of a plaque to be hung at the medical school which would include names of all donors who have given \$500 or more to the Endowment since it was established. Subsequently the Board authorized a plaque for donors of \$2,000 or more cumulative contributions. In 1988 the Board directed that individual plaques be provided to one time donors of \$500 and \$1,000.

The Endowment Association provided funding for a booth at the State Fair manned by USDSM faculty,

students and Endowment Board members for the years 1969 - 1971, and 1973 and 1974.

In 1968 the Endowment Board voted to pay the legal fees incurred in the Kennel Club case (approximately \$950) to enforce the pound law which provides animals to the University of South Dakota School of Medicine.

For several years discussion was held concerning the establishment of an Alumni Association; however, it wasn't until 1973 that the Board allocated \$1,000 to be added to a \$2,500 donation earmarked for the establishment of an alumni office. A special meeting was held in March 1979, to plan and implement an Alumni Association. The Endowment board allocated funding for a three year period: \$12,000 for the first year, \$8,000 for the second year, and \$6,000 for the third year. A secretary was hired by the University of South Dakota School of Medicine to staff the Alumni office which was located in Vermillion. Shortly thereafter Jim Hess was hired as the first director. The Alumni Foundation became self supporting as regards to salaries as of July 1, 1982. On July 1, 1986, the Endowment office assumed administrative duties for the Alumni Foundation with Loren Amundson, MD serving as the director. The Alumni reported on an annual basis to the Endowment Board. This arrangement continued until June 30, 1989, at which time administrative duties were transferred to Dr Amundson's office in Sioux Falls, and the Alumni Foundation finalized its separation from the Endowment Association.

The "Dean's Fund" was established in 1974, and \$1,000 allocated to this fund. This provided money for the Dean of USDSM to use at his discretion when state funds could not be used. Subsequent funds collected and given to the Dean were earmarked by donors.

In 1982 the Endowment received money from the estate of Lillian Wulbers (\$31,203.34). The terms of the will stated that only the interest could be used on an annual basis to provide scholarships to needy students at the University of South Dakota School of Medicine with an interest in ophthalmology, or ear, nose and throat. This fund remains in a separate account which is administered by the Endowment Association and provides two to three scholarships of \$1,000 or more to students at USDSM each year.

Presently the Endowment Association administers several individual scholarship funds established by donors who have given a minimum of \$10,000. The emphasis of the Endowment Board has been to solicit donations for the loan fund which currently grants \$70,000 in loans to University of South Dakota School of Medicine students annually. In 1993 - 94 the Endowment Board deferred to the University of South Dakota Foundation and agreed to have the Foundation solicit donations for the Endowment Association as well as for other associations affiliated with the University. This will be evaluated by the Board at their June 1994 meeting. At this time the Endowment Association has in excess of \$370,000 out in loans.

New Physicians

The following physicians recently began practicing medicine in South Dakota.

John Adams, MD 1410 S 8th St Aberdeen, SD 57401	IM	Daniel H. Reiffenberger, MD Brown Clinic 506 First Ave, SE Watertown, SD 57201	FP
David J. Barnes, MD Yankton Medical Clinic 1104 W Eighth Yankton, SD 57078	FP	Sarah Reiffenberger, MD Brown Clinic 506 First Ave, SE Watertown, SD 57201	FP
Tage E. Born, MD 1215 N Main Aberdeen, SD 57401	OBG/GYN	Tim M. Ridgway, MD Yankton Medical Clinic 1104 W Eighth Yankton, SD 57078	GE
T. Lane Dykes, MD 1420 N 10th St Spearfish, SD 57783	OBG	Rufus Rodriguez, MD St. Luke's Midland Regional Med Ctr Radiology Dept 305 S State St Aberdeen, SD 57401	DR
Mark Gedden, DO RR 1, Box 177 Hot Springs, SD 57747	FP	Steven J. Savonen, MD 1410 N 10th St Spearfish, SD 57783	ORS
Joseph Gendreau, MD St. Luke's Midland Regional Med Ctr 305 S State St Aberdeen, SD 57401	R	Myles E. Tieszen, MD Yankton Medical Clinic, PC 1104 W 8th St Yankton, SD 57078	GS
Cy B. Haatvedt, MD Tschetter-Hohm Clinic 455 Kansas, SE Huron, SD 57350	GS	Alexander G. Webb, MD 1440 Fifteenth Ave, NW Aberdeen, SD 57401	OM/AM
Scott Hiltunen, MD Yankton Medical Clinic 1104 W Eighth Yankton, SD 57078	IM	David W. Withrow, MD 1104 W Eighth Yankton, SD 57078	Ped
Ralph E. Hunt, MD PO Box 247 Chamberlain, SD 57325	GS	<hr/>	
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Theodore Matheny, MD Chamberlain Community Clinic PO Box 27, 112 W 16th St Chamberlain, SD 57325	FP	North Central Heart Institute Palisades Pharmaceuticals, Inc SD Blue Shield SD Foundation for Medical Care	Cover 3 314 304 306
Frank P. Nellans, MD Mitchell Anesthesia, PC PO Box 1361 Mitchell, SD 57301	AN	SD Medical School Endowment Assoc SD Society of Pathologists The Doctors' Company	Cover 2 & 327 311 301
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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 Credit Available Unless Otherwise Specified)

CME CONFERENCES

SEPTEMBER 1994

- September 1 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 1 **Cath Conference** - 7:30 am, Sioux Valley Hospital, Info: Alice Glirbas - 333-2766.
- September 1 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 1 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- September 1 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 2 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- September 2 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- September 6 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Info: Phyllis Sander, RN, 692-6351.
- September 7 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Richard Barth, MD, Topic: Diabetic Nephropathy, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- September 8 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- September 8 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- September 8 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 8 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 8 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiopulmonary Dept, 339-8171.
- September 8 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 9 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 9 **Biomedical Ethics** - East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 9 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- September 12 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- September 13 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- September 14 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- September 14 **Topics in Clinical Medicine - Audio Teleconference Series** - (12:15 pm CT/CDT, 11:15 am MT/MDT and repeated 1:30 pm CT/CDT, 12:30 pm MT/MDT) Speaker: Elizabeth Dimitrievich, MD; Topic: Dysfunctional Uterine Bleeding; Info: Connie Kleinsasser, USDSM - 357-1480.
- September 14 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- September 14 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Walt Wilson, MD, Topic: Blood Born Pathogens, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- September 15 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- September 15 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 15 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 15 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- September 15 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 16 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 16 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- September 20 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- September 21 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced, Info: David Rossing, MD 331-3490.
- September 21 **Clinical Pathology Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).

- September 22 **Geriatric Forum** - 7:30 am, East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 22 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- September 22 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- September 22 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 22 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 22 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 23 **Tumor Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- September 23 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- September 23 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- September 26 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- September 28 **Topics in Clinical Medicine - Audio Teleconference Series** - (12:15 pm CT/CDT, 11:15 am MT/MDT and repeated 1:30 pm CT/CDT, 12:30 pm MT/MDT) Speaker: William F. Gust, MD; Topic: Hypertension: An Update; Info: Connie Kleinsasser, USDSM - 357-1480.
- September 28 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- September 28 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Robert Dreicer, MD, Topic: Managing Cancer Pain, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- September 29 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- September 29 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- September 29 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- September 30 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

OCTOBER 1994

- October 4 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 5 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 6 **Biomedical Ethics** - East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 6 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- October 6 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- October 6 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 6 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Dr. Robert Kreger, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- October 6 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 6 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- October 7 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: Dr. Donald Kreger, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- October 7 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 7 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- October 7 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 10 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- October 11 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- October 12 **Topics in Clinical Medicine - Audio Teleconference Series** - (12:15 pm CT/CDT, 11:15 am MT/MDT and repeated 1:30 pm CT/CDT, 12:30 pm MT/MDT) Speaker: Stephen L. McDonough, MD; Topic: Hantavirus: An Emerging Infectious Disease; Info: Connie Kleinsasser, USDSM - 357-1480.
- October 12 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Thomas Hyers, MD, Topic: Low Molecular Weight Heparins, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 12 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- October 13 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- October 13 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

- October 13 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 13 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiopulmonary Dept, 339-8171.
- October 13 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 13 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- October 14 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 14 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

MISCELLANEOUS MEETINGS

OCTOBER

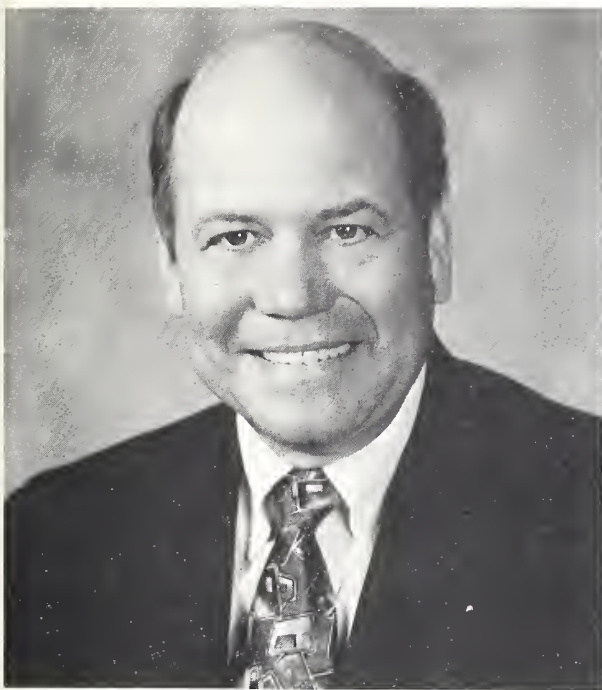
- October 6-7 **Primary Care Emergencies**, St. Paul-Ramsey Med Ctr, St. Paul, MN. 13 hrs AMA Category 1 credit. Contact: CME, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- October 6-9 **38th Annual Meeting of the American Society of Internal Medicine**, Fairmont Hotel, Dallas, TX. Contact: ASIM, 2011 Pennsylvania Ave, NW, Suite 800, Washington, DC 20006-1808. Phone: (800) 338-2746.
- October 7 **Eighth Annual Missouri Valley Family Practice Symposium**, Yankton, SD. Contact: Lori Pflanz. Phone: 665-9005.
- October 7-8 **Third Annual Family Practice Update**, Mall of America Grand Hotel, Bloomington, MN. Fee: \$145. 10 hrs AMA Category 1 credit. Contact: Ann Samways, CME Coord, HCMC/HFA Off of Academic Affairs, 701 Park Ave, S, Mail Code 869A, Minneapolis, MN 55415-1829. Phone: (612) 347-2078.
- October 8 **Cardiology Program**, Henry Doorly Zoo, Omaha, NE. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, #2130, Omaha, NE 68131. Phone: (800) 548-2633.
- October 8-12 **North American Society of Pediatric Gastroenterology and Nutrition**, Westin Galleria Hotel, Houston, TX. Contact: Ctr for Cont Educ, Univ of Neb Med Ctr, 600 S 42nd St, Omaha NE 68198-5651. Phone: (800) 642-1095.
- October 15-16 **International Symposium on Myeloproliferative Disorders**, Mayo Foundation, Rochester, MN. Contact: Mayo Found, Barb Stussy, Rochester, MN 55905. Phone: (800) 323-2688.
- October 19 **Advances in Acid Related Diseases**, Marriott, Omaha, Neb. Contact: Ctr Cont Educ, Univ of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- October 27-28 **Symposium on Obstetrics & Gynecology**, Ritz-Carlton Hotel, St Louis, MO. Fee: \$250. 11.5 hrs AMA Category 1 credit. Contact: Cathy Sweeney, Off CME, Washington Univ School of Med, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- October 27-28 **Trauma Management for Primary Care Providers**, Holiday Inn East, St. Paul, MN. Fee: \$250. 13 hrs AMA Category 1 credit. Contact: Registrar, CME, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- October 28 **Electrocardiography for Primary Care Physicians**, Mall of America Grand Hotel, Bloomington, MN. Fee: \$115. 7 hrs AMA Category 1 credit. Contact: Ann Samways, CME Coord, HCMC/HFA Off of Academic Affairs, 701 Park Ave S, Mail Code 869A, Minneapolis, MN 55415-1829. Phone: (612) 347-2078.
- October 29 **Update and Case Reviews in Otorhinolaryngology-Head & Neck Surgery**, Mayo Foundation, Rochester, MN. Contact: Rita Kunz, Sec, Postgraduate Courses, CME, Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.

NOVEMBER

- November 3-4 **Ob/Gyn Clinical Reviews**, Mayo Foundation, Rochester, MN. Contact: Postgraduate Courses, Sec of CME, Mayo Found, Rochester, MN 55905. Phone: (800) 323-2688.
- November 10-12 **Strategies in Primary Care Medicine**, Holiday Inn East, St. Paul, MN. Fee: \$275. 16.25 hrs AMA Category 1 credit. Contact: Registrar, CME, St. Paul-Ramsey Med Ctr, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- November 11 **Approaching Liver Disease Management with Evolving Therapeutic Techniques**, Rush-Presbyterian-St. Luke's Med Ctr, Chicago, IL. Fee: \$100. Contact: Patricia Michaels, MPH, Rush Liver Transplant Prog, Rush-Presbyterian-St. Luke's Medical Ctr, 1653 W Congress Parkway, #201 Jones, Chicago, IL 60612-3833. Phone: (312) 942-6242.
- November 12-13 **Monitoring Neural Function During Surgery**, Mayo Foundation, Rochester, MN. Contact: Postgraduate Courses, Sec of CME, Mayo Found, Rochester, MN 55905. Phone: (800) 323-2688.
- November 17-20 **Consultation-Liaison Psychiatry: The Bridge to Primary Care**, The Pointe, Squaw Peak, Phoenix, AZ. Fee: \$300. 27 hrs AMA Category 1 credit. Contact: Academy of Psychosomatic Medicine, PO Box 94620, Chicago, IL 60690. Phone: (312) 784-2025.

DECEMBER

- December 2-6 **Gateway to Exploration: 12th World Congress of Endourology and ESWL and 10th Basic Research Symposium**, Adam's Mark Hotel, St. Louis, MO. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.



**James R. Reynolds, MD, President
South Dakota State Medical Association**

Prevention

Good Health? Cost Containment?

From the onset of the debate on health system reform, "prevention" has been the buzz word, not only for the Clinton Healthcare Proposal, but for many of the other alternative proposals. For those in medicine, this seems self-evident that prevention should have major funding and emphasis. The saying, "an ounce of prevention is worth a pound of cure," preaches prevention, but unfortunately proving cost-effectiveness in health care is not easy. Cost-effective analyses are difficult to understand and even harder to trust or, in a slightly revised Mark Twain statement, "There are lies, damn lies and cost-effective analysis." Congress, in its enthusiasm for passing health system reform, has wrongly equated prevention with overall cost savings.

Preventive medicine encompasses disease prevention (primary prevention) ie, smoking prevention; early detection of asymptomatic disease (secondary prevention) ie, mammography screening for breast cancer; and prevention of progression of disease (tertiary prevention) ie, carotid endarterectomy or stroke prevention. The final objective for all prevention efforts is prolongation of life and disability reduction.

In order to achieve the greatest health benefit for the least cost requires careful economic evaluation. Such evaluation must include the cost of the prevention plan itself, the cost of prevention treatment, and the cost of side effects and complications of prevention treatment. In addition, with successful prevention programs, the cost of subsequent medical care for disease states (that frequently are chronic and more expensive) must be added. It is this latter fact that has not been addressed in the current health reform debate. The savings to offset these expenses are the treatment cost of the disease that was prevented and the health benefits of improved quality and length of life.

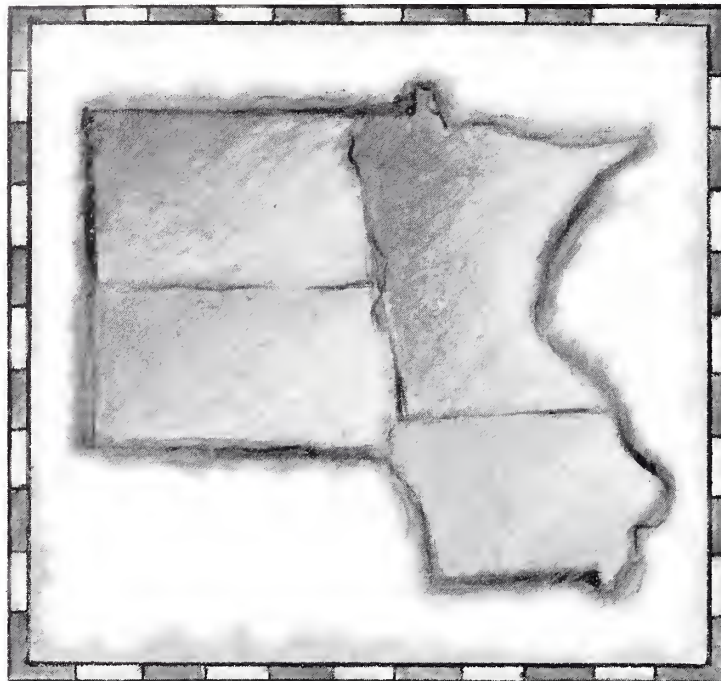
There are many examples of the success of preventive screening and education programs for larger employer groups. Savings from the Johnson & Johnson "Live for Life Wellness Program" were estimated at \$930,316, or \$116 per employee, during the five year study. In a mammography screening program of Coors Brewing Company, Golden, Colorado, the estimated direct and indirect cost savings in 1990 was \$1.5 million. These programs, and others reporting similar savings, have excluded the long term cost to society of the postponed medical expenses that will occur another month or another year from the same disease or, more likely, a more chronic costly disease.

The challenge then is two-fold. Prevention experts must present objective, cost-effective data for preventive services that will allow comparison and appropriate cost benefit decisions. Second, careful ethical decisions must be made to eliminate wasteful inefficient services so they may be redirected to meaningful health care delivery. In the evolving competitive marketplace, we must guard against elimination of preventive services for short term financial gain of large third party payers.

Preventive medicine is clearly important and is of major importance in our health care delivery system. We cannot, however, delude ourselves into believing that prevention is not without significant costs, or that many of our most expensive, chronic, debilitating diseases will be permanently eliminated. Certainly prevention alone is not the solution to our rising health care costs.

A handwritten signature in dark ink, reading "James R. Reynolds". The signature is fluid and cursive, with a large, stylized "R" at the end.

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Male Breast Cancer: Three Case Reports and Review of the Literature

Samir N. Rizk, MD, FICS, Costas A. Assimacopoulos, MD, FACS and John J. Ryan, MD, FRCSI, FRCS, FACS

ABSTRACT

Carcinoma of the breast occurs so infrequently in men that it is not at all well known either to patients or physicians. The causes of breast cancer in men are unknown. The most common clinical manifestation of breast cancer in men is a painless, firm subareolar mass or a mass in the upper outer quadrant of the breast. Diagnosis can be confirmed by fine-needle aspiration or surgical biopsy. Infiltrating ductal carcinoma is the predominant histologic type.

After primary surgical treatment, men with axillary lymph node metastasis should receive adjuvant systemic chemotherapy. The use of radiation therapy for local control of the disease is recommended if there is invasion of the chest wall. Because most men with carcinoma of the breast have estrogen and progesterone-receptor positive tumors, breast cancer in men is likely to respond to hormonal manipulation.

INTRODUCTION

Male breast carcinoma is a rare lesion, accounting for less than 1% of all cancers in men. Female:male ratio for this type of neoplasm has been reported between 100:1 and 160:1.¹ The course of the disease and management are almost similar to that of breast carcinoma in females, however, carcinoma of the male breast usually presents at a more advanced stage.² This is attributable to the smaller amount of breast tissue that permits rapid invasion into the chest wall. Also, early signs of this disease in males are often misinterpreted by both patient and physician.

Three cases with male breast cancer admitted to the Veteran's Administration Hospital at Sioux Falls, South Dakota during the period from 1983-1992 are presented, along with a review of current approaches to diagnosis and management of this type of neoplasm.

CASE REPORTS

Case 1

A 62 year old white man was transferred to our department for further evaluation of a two year history of a mass in his left breast. On examination, a firm, 3 cm mobile mass was felt in the upper outer quadrant of the left breast with serosanguinous secretion from the nipple. Physical exam was otherwise unremarkable. An excisional biopsy revealed intraductal papillary adenocarcinoma. The patient consequently underwent a modified radical mastectomy. A pathological examination proved no residual evidence of tumor and

none of the fifteen lymph nodes showed any tumor infiltration. The pathological stage was IIA (T₂N₀M₀). Eleven years after surgery, there was no evidence of tumor recurrence.

Case 2

A 37 year old man was referred to the hospital with a complaint of a swelling beneath the nipple of his right breast which had increased in size during the last two months. On physical examination, a hard, round, mobile lesion about 1.5 cm in diameter was discovered near the patient's right nipple. No regional lymph nodes were palpable. There was gynecomastia of the left breast. An excisional biopsy of the mass demonstrated infiltrating ductal carcinoma. One week after the biopsy, a right radical mastectomy and a left simple mastectomy were done. Histological diagnosis of gynecomastia in both breasts was demonstrated, and reactive hyperplasia was shown in 23 lymph nodes on the right side. The patient was stage I (T₁N₀M₀) at the time of diagnosis. Three years after surgery, the patient remains well with no recurrence of the malignancy.

Case 3

A 71 year old man complained of a one year history of a lump in his right breast with occasional burning sensation at the nipple. Physical examination revealed a small, round, firm, mobile lump about 1 cm in diameter in the upper outer quadrant of the right breast without skin retraction. Clinically enlarged (axillary) lymph nodes were palpable on the same side. Mammography showed a mass with irregular speculated

margins suggesting malignancy (Figure 1). Incisional biopsy of the lesion demonstrated an intraductal adenocarcinoma. Two weeks after the biopsy, the patient underwent a modified radical mastectomy, and pathological examination of the remaining tissue confirmed the diagnosis. Eight of 14 examined nodes were positive and the patient was stage IIA ($T_{1C} N_1 M_0$) at that time. Adjuvant chemotherapy and hormonal therapy with tamoxifen were given postoperatively. Two years after surgery, there was no evidence of tumor recurrence.

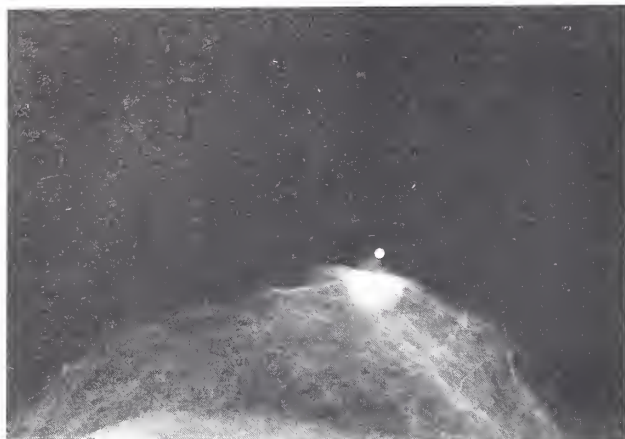


Figure 1

Mammogram of patient in Case 3; this mammogram demonstrates diffuse, stippled calcification which is typical of malignant disease.

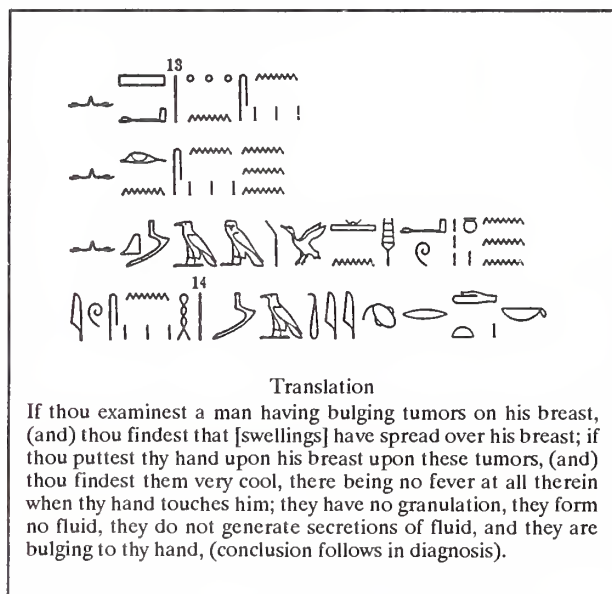


Figure 2

A case of male breast cancer described in Egypt about 5000 years ago. (In: Breasted JH, eds. *The Edwin Smith Surgical Papyrus: Case 45. Bulging tumor on the breast.* Chicago, Illinois, The University of Chicago Press, 1930.)

DISCUSSION AND LITERATURE REVIEW

In modern times, the first case of carcinoma in the male breast was reported by Wainwright in 1927.² However, the Edwin Smith papyrus contains the first description of male breast cancer about 5,000 years ago (Figure 2).³ It is a rare tumor and a general surgeon in this country may not see more than one such case during his professional career. Less than 1% of all cases of breast cancer occur in men. In the United States, close to 1000 new cases are diagnosed every year,⁴ and the annual incidence of breast cancer in men is 0.7/100,000.⁵ The mean age at which breast cancer is detected is 60 years which is 6 to 11 years later than in women.^{6,7,8} Breast cancer is less often bilateral in men than in women; the prevalence of bilaterality was only 1.4% in a collected series of 1158 men.⁹

Although the causes of breast cancer in the male remain unknown, there are factors that appear to put men at an increased risk. These factors include exposure to ionizing radiation,⁹ administration of exogenous estrogens, chromosomal evidence of the Klinefelter syndrome, high endogenous estrogen levels resulting from chronic liver failure and cirrhosis, infectious orchitis, gynecomastia and familial tendency.¹⁰ The incidence of breast cancer in males with hyperestrogenemic states approaches 6%. Schistosomiasis has been associated with an increase in the frequency of male breast cancer; this parasitic infestation leads to chronic liver failure and hyperestrogenemia. In Egypt, where schistosomiasis is endemic, male breast cancer is more common than prostate cancer and constitutes about 6% of all cases of breast carcinoma.¹¹

In men with breast cancer, the most common presenting complaint is a painless, firm subareolar mass occurring in more than 75% of cases. A mass in the upper outer quadrant is the second most frequent clinical presentation; other quadrants are usually not involved.¹² Nipple discharge occurs in 14% of men with malignant breast tumors and 2% of these with benign breast tumors. Nipple sanguinous discharge is associated with carcinoma in 75% of male breasts which is three times the risk found in women.¹³ Gynecomastia is present in about 40% of these patients but, in all likelihood, bears no causal relationship to the cancer. Crichlow and Galt reported that the average duration of symptoms before diagnosis was 18 months,¹⁴ while Mausner et al recently reported that delay in presentation has been considerably shortened.¹⁵

Mammography, ultrasonography and fine needle aspiration have been used for the evaluation of breast masses in man.¹⁶ Since the sensitivity rate of fine-needle aspiration biopsy is variable, reported as between 36% to 89% in different reports,^{16,17} an open biopsy should be done following every case of fine-needle cytology that fails to demonstrate malignancy.^{18,19} Male breast cancer has been reported with all the histological types that occur in women including lobular carcinoma, which was previously believed to occur exclusively in females.²⁰ The most common histologic type is infiltrating ductal carcinoma representing more than 85% of

cases in most series.²¹⁻²³ Infiltrating papilloma accounts for 5%. Mucoïd cancer, medullary cancer and tubular lesions along with Paget's disease of the breast represent fewer than 10% of cases.²³

The surgical procedure for the local treatment of carcinoma of the male breast is often radical mastectomy due to early involvement of skin and pectoral muscles. Modified radical mastectomy and the partial excision of the underlying pectoralis major muscle, with or without radiation therapy, may be used in small tumors.¹⁴ In a review of 292 cases at the Christie Hospital, Manchester, 71% of patients were treated surgically: 91 had radical mastectomy, 93 had simple mastectomy and radiotherapy, and 25 had simple excision and radiotherapy.²⁴ Although postoperative radiation therapy to the chest wall has decreased the incidence of local recurrence, its effect on survival is unknown.⁷ Other studies found that radical mastectomy offers no survival advantage over modified radical mastectomy in patients with early breast carcinoma.^{13,25,26}

Axillary lymph node dissection is mandatory for accurate staging, as many investigators have indicated that lymph node involvement is a more important prognostic factor in carcinoma of the male breast than in women. (Table I) Patients without lymph node metastasis have a significantly better outcome than those with positive lymph nodes.^{7,21,24,25} Many recent reports indicated that only 35% of the patients are stages III and IV in contrast with previous studies that reported 65% as stage III and 54% as stage IV. The better prognosis could be explained by the improved awareness of both patients and health care providers about the disease.²⁶ Estrogen and/or progesterone receptors have been detected in the majority of cases.^{14,27}

TABLE I			
Influence of axillary lymph node involvement on prognosis in carcinoma of the male breast.			
Study	Year	5 Year Survival (%)	
(Reference)		Node-negative	Node-positive
Crichlow [20]	1974	79	28
Yap et al [23]	1979	77	38
Erlichman et al [6]	1984	77	37
Hultborn et al [24]	1987	94	48

Recently published data support the use of adjuvant chemotherapy and/or hormonal therapy for patients at high risk of recurrence after local therapy.^{31,32} These risk factors include the presence of metastases in axillary nodes, advanced stage of the disease at diagnosis, poor differentiation of the carcinoma and tumor size. Yap et al reported that patients with lesions more than 5 cm had a median survival of only 15 months, and a median time for recurrence was 5 months.³¹ Hormonal therapy, in the form of orchiectomy, tamoxifen, estrogen (diethylstilbestrol) and antiandrogens may be used in patients with metastatic disease and the prognosis

is much better in estrogen receptor positive tumors than receptor negative neoplasms.²³ Combined treatment with antiandrogens and gonadotropin-releasing hormone analogs in the form of buserelin and cyproterone acetate have been used in metastatic male breast cancer by Lopez et al.³³ Total androgen blockade with this combination seems to be effective in the treatment of patients with advanced disease. However, the superiority of this regimen over standard androgen suppression remains to be demonstrated.³³

CONCLUSION

It was believed that male breast cancer has a poorer prognosis than female breast cancer. However, many authors have now reported that the prognosis is almost similar in both sexes. The management plan is somewhat different from that of women with breast cancer due to close proximity of the lesions to the pectoral muscle and overlying skin. The influence of lymph node metastases on survival of male patients with breast cancer has been emphasized by many researchers. Most of the carcinomas of the male breast are estrogen and/or progesterone receptor-positive, thus, the response rate for distant metastatic disease treated with hormonal therapies is high.

Risk factors such as gynecomastia, family history of breast cancer, estrogen therapy and a history of Klinefelter's syndrome should be considered when examining a male patient with a breast lump. Health care authorities should direct the attention of the community toward the existence of this type of malignancy in males.

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REFERENCES

1. American Cancer Society, Cancer Facts and Figures - 1991. New York. Am Cancer Soc 1991:5.
2. Wainright JM: Carcinoma of the male breast: Clinical and pathological study. Arch Surg 1927;14:836-859.
3. Breasted JH: Case 45. Bulging tumors on the breast: The Edwin Smith Surgical Papyrus. Chicago, Illinois, The Univ of Chicago Press, 1930;403.
4. Bhagat P, Kline TS: The male breast and malignant neoplasms: Diagnosis by aspiration biopsy and cytology. Cancer 1990;65:2338-2341.
5. Bavafa S, Reyes CV, Choudhury AM: Male breast carcinoma: An updated experience at a Veterans Administration Hospital and review of the literature. J Surg Oncol 1983;24:41-45.
6. Donegan WL: Cancer of the male breast. In: Donegan WL, Spratt JS Jr, eds. Cancer of the breast, 3d edition. Philadelphia: W. B. Saunders Company; 1988:716-727.
7. Erlichman C, Murphy KC, Elhaim T: Male breast cancer: A 13-year review of 89 patients. J Clin Oncol 1984;2:903.

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8. Siddiqui T, Weiner R, Moreb J et al: Cancer of the male breast with prolonged survival. *Cancer* 1988;62:1632.
9. Crichlow RW: Carcinoma of the male breast. *Surg Gynecol Obstet* 1972;134:1011.
10. Kalisher L, Peyster RG: Xerographic manifestations of male breast disease. *Am J Roentgenol Rad Ther Nucl Med* 1975;125:656.
11. El-Gazayerli MM, Abdel-Aziz AS: On bilharziasis and male breast cancer in Egypt. *Br J Cancer* 1963;17:566.
12. Scheike O: Male breast cancer. 5. Clinical manifestations in 257 cases in Denmark. *Br J Cancer* 1973;28:552-561.
13. Digeris AG, Ross CB, Morrison JG, Holcomb G 3rd, Reynolds V: Carcinoma of the male breast: A review of 41 cases. *South Med J* 1990;83:1162-1167.
14. Crichlow RW, Galt SW: Male breast cancer. *Surg Clin North Am* 1990;70:1165-1177.
15. Gupta RK, Naren S, Simpson J: The role of FNAC in the diagnosis of breast masses in males. *Eur J Surg Oncol* 1988;14:317-320.
16. Saunders G, Lakra Y, Libcke J: Comparison of needle aspiration cytologic diagnosis with excisional biopsy tissue diagnosis of palpable tumors of the breast in a community hospital. *Surg Gynecol Obstet* 1991;172:437-440.
17. Frable WJ: Needle aspiration of the breast. *Cancer* 1984;53:671-676.
18. Hands LJ, Greenall MJ: Gynecomastia. *Br J Surg* 1991;78:907-911.
19. Adye B, Jolly PC, Bauermeister DE: The role of fine-needle aspiration in the management of solid breast masses. *Arch Surg* 1988;123:37-39.
20. Sanchez AG, Villanueva AG, Redondo C: Lobular carcinoma of the breast in a patient with Klinefelter's syndrome. *Cancer* 1986;57:1181.
21. Crichlow RW: Breast cancer in men. *Semin Oncol* 1974;1:145-152.
22. Heller KS, Rosen PP, Schottenfeld D, Ashikari R, Kinne DW: Male breast cancer: A Clinicopathologic study of 97 cases. *Ann Surg* 1978;188:60-65.
23. Ismael AJ, Jaiyesimi DO, Aman UB, Aysegul AS, Merrick AR: Carcinoma of the male breast. *Ann Int Med* 1992;117:771-777.
24. Ribeiro GG: Male breast carcinoma. A review of 301 cases from the Christie Hospital and Holt Radium Institute, Manchester. *Br J Cancer* 1985;51:115-119.
25. Ouriel K, Lotze MT, Hinshaw JR: Prognostic factors of carcinoma of the male breast. *Surg Gynecol Obstet* 1984;159:373-376.
26. Spence RA, Mackenzie G, Anderson JR, Lyons A, Bell M: Long-term survival following cancer of the male breast in Northern Ireland. A report of 81 cases. *Cancer*. 1985;55:648-652.
27. Yap HY, Tashima CK, Blumenschein GR, Horotobagyi GN, Eckles N: Chemotherapy for advanced male breast cancer. *JAMA* 1980;243:1739-1741.
28. Hultborn R, Frieberg S, Hultborn KA: Male breast carcinoma. A study of the total material reported to the Swedish Cancer Registry 1958-1967 with respect to clinical and histopathological parameters. *Acta Oncol* 1987;26:241-256.
29. Seitzinger JW: Carcinoma of the male breast. *NJ Med* 1990;87:803-809.
30. Morimoto T, Komaki K, Yamakawa T, Tanaka T, Oomine Y, Konishi Y et al: Cancer of the male breast. *J Surg Oncol* 1990;44:180-184.
31. Patel HZ, Buzdar AU, Hortobagyi GN: Role of adjuvant chemotherapy in male breast cancer. *Cancer* 1989;64:1583-1585.
32. Ribeiro G, Smudeh R: Adjuvant tamoxifen for male breast cancer. *Br J Cancer* 1992;65:252-254.
33. Lopez M, Natali M, Di Lauro L, Vici P, et al: Combined treatment with buserelin and cyproterone acetate in metastatic male breast cancer. *Cancer* 1993;72:502-505.

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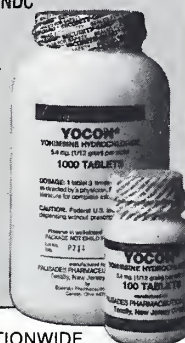
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References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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The Physician As Role Model

In early August, the University of South Dakota School of Medicine sponsored a three day orientation program for beginning medical students. This represented the third year an expanded orientation has been given to the students before they embark on their basic science courses in Vermillion. The intent of the orientation is to generally introduce students to the medical culture which they are joining. An effort is made to demonstrate for the students how the basic sciences serve as a background for clinical medicine, and to also provide them with some "snapshots" of what it means to be a physician and how clinical medicine is done. During these introductory sessions, the students meet a variety of basic sciences and clinical faculty. Activities are also provided to facilitate the students getting to know one another. Emphasis is put on the fact that, ideally, students should function as colleagues during medical school, much as they will function on a collegial basis in clinical medicine. Emphasis is placed on cooperation and mutual assistance, rather than individual competition with each other. Detailed discussions are held both in lecture style and with small groups to explain what the first months and years of medical school will be like.

Overall the program seems beneficial. Informal surveys of the students this year and in the preceding years, indicate that this type of orientation and overview of what it means to be a medical student and, ultimately, a physician is helpful. Some of the basic science faculty have commented that students who have had the benefit of this type of orientation seem more relaxed and better able to work cooperatively with each other in their studies.

As I participated in this program, I found it very interesting to observe the behavior and skills of both fellow faculty members and the new students. I was struck by the tremendous influence we physicians have as role models to our students and residents. Studies have shown that many of the practice behaviors (good and bad) which resident physicians and practicing physicians demonstrate are, in fact, learned behaviors acquired from modeling one's mentors. Clearly, a compassionate and caring clinician can be an important inspiration to a student. On the other hand, a physician who is abrupt with patients, sarcastic to the nursing staff or frustrated and cynical about clinical practice can serve as a negative model for student emulation. It has been postulated that much of the cynicism and callousness that sometimes develops during the course of strenuous residencies is acquired from exposure to faculty behavior.

One of the most moving parts of the orientation program was a "clinical grand rounds" session. A family physician interviewed one of his patients and that

patient's spouse about an illness which had required a long hospitalization and left the patient with some permanent disability. Both during the session and in their comments afterwards, the students seemed genuinely moved by the skill and caring of the physician. He very effectively demonstrated how a primary care physician should function. In the interview, it was evident that this physician was very adept at communication, and had the interest of the entire family in mind as he tried to help the individual patient. He demonstrated sensitivity to a myriad of issues such as financial concerns, emotional turmoil and ethical considerations. To my mind, this physician's ability and caring did much more to impress the students about the satisfactions and importance of primary care than would any number of didactic lectures on the subject. My guess is that this physician and his patient will be recalled by the students throughout the four years of medical school and beyond.

Another interesting and related aspect of the orientation that impressed me was the notion that continued, ongoing education is an inevitable concomitant of being a physician. We simply cannot continue to be effective clinicians for our patients if we reach a point when we cease to learn about the ever-changing technologies and possibilities in medicine. As I watched the students, it occurred to me (as it has in the past) that all of my copiously written medical school notes are now long outdated. Even many of the techniques and truisms I learned in residency have been refined and sometimes dramatically changed. I believe this type of evolution occurs for all of us. Indeed, as a faculty member provided introductory remarks for the students about the upcoming biochemistry/molecular biology course, he noted that inevitably major scientific advances and refinements will be made in every single year of the students' medical career. During these upcoming four years, and in their later practice, it will always be a difficult challenge for them to stay adequately abreast of new developments. In this realm of continuing learning, the importance of the physician as role model should also not be underestimated. I believe that by our example to students and residents we must challenge ourselves to demonstrate our belief in the importance of on-going education. As a resident, I can remember that I and my colleagues were always impressed by faculty and practitioners who clearly stayed current about new developments in medicine. I assume that this holds true for students and residents today. When clinicians attend grand rounds and other continuing education programs, and are able to cite and utilize current medical literature, they are quietly demonstrating to the student/resident that on-going learning is a vital part of who we are as physicians. As an illustration of this point, Dr Talley related in his orientation lecture

an interesting story. He told of an accomplished academic physician who, after he retired, proceeded to again sit in on all the classes and experiences of medical school to learn and relearn the complexities and new developments of medicine.

And so, at least for me, this current orientation for our new medical students had a lot to do with the influence and importance of role models. Since so many of us throughout the state are either full time or clinical faculty, the challenge of what it means to be a role model has wide-spread implications. As I was reflecting about the topic for this editorial, one of my colleagues happened to tell me about overhearing a physician ranting and raving at the nurses about his displeasure at a delay. This struck the observer as a form of verbal abuse. At least to an outsider, the outburst seemed childish and probably ineffective in terms of accomplishing any improvement in the situation. All of us have at one time or another seen such displays and, regrettably, have participated in similar scenarios. Certainly, such an example is far removed from the type of equanimity and poise that William Osler stressed. I believe it is also far removed from the type of caring and concerned physicians we all want to be and want to portray. As mentors to our students and residents, we are always being watched. Our responsibilities as "role models" are considerable, and having the opportunity, at orientation, to interact with young women and men just beginning their medical education proves to be an excellent time to reflect on this responsibility. Our students watch us carefully, and may become who we are.

Jerome W. Freeman, MD
Editor

Reflections in the Garden

*Strange personage, day on night pass by
I turn to the profoundly new entreat.
Slapped and stung I falter back
To gaze on the beauty of the unaltered stance.

Attempt again, the move toward
The slap, the sting, the beauty yet revealed.
The paradox throttles my speed
But I want, oh yes indeed, I want!

Strange beauty in a haze
Finally a smile, an expression is made.
No, there is no paradox
The slap becomes the beauty of it all.*

Jerry L. Walter, MD
Sioux Falls, SD

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Survival of the Tiny Neonate: USD School of Medicine/Sioux Valley Hospital Experience, 1981-1992*

Dennis C. Stevens, MD, MS, David P. Munson, MD, Rachel D. Klinghagen, RN, CNP and Bonnie K. Becker, RN

ABSTRACT

The survival of very low birth weight newborn infants of ≤ 1000 gms cared for in the University of South Dakota School of Medicine/Sioux Valley Hospital Neonatal Intensive Care Unit was analyzed for the 12 year period of 1981-1992. Survival has increased from 45% in 1981-1983 to 65% in 1990-1992. The most recent figures for 1990-1992 indicate 54% survival in neonates of ≤ 600 gms, 73% in those of 601-700 gms, 56% in those of 701-800 gms, 60% in those of 801-900 gms and 81% in those of 901-1000 gms. Survival rates by birth weight and gestational age are comparable to nationally published statistics. The potential for normal long term outcome, including physical growth and intellectual development, appears to be very good, with 74% of long term survivors having no evidence of severe physical or neurologic impairment at the time of discharge from the hospital.

Progress in the fields of neonatal pediatrics and perinatal obstetrics during the past decade has been associated with a substantial increase in the number of premature infants who survive, and an improved quality of life. Since the advent of neonatal/perinatal medicine, the birth weight limit for viability has progressively declined, providing a challenge to the primary care provider to keep abreast of the most recent data concerning the outcome of very low birth weight neonates so as to appropriately counsel parents in regard to intervention.

The purpose of this report is to describe the experience of the Neonatal/Perinatal Section of the Department of Pediatrics of the University of South Dakota School of Medicine (USD) in the tertiary Neonatal Intensive Care Unit (NICU) at Sioux Valley Hospital (SVH) in Sioux Falls, South Dakota. Data presented are for neonates of ≤ 1000 gms at birth who were cared for in the NICU during the time period starting January 1, 1981 and ending December 31, 1992.

METHODS

The medical records of all neonates admitted to the NICU were reviewed following discharge from the hospital. One hundred and twenty-eight data items were extracted from the medical record and entered into a relational data base (dBASE III+, Ashton-Tate, Culver City, CA) on a microcomputer. All data were rechecked following computer entry to ensure accuracy. Statistical analyses were performed using Statistical Analysis Software (SAS Institute Inc, Cary, NC) for the microcomputer.

Because of the relatively small number of tiny neonates cared for each year, and changing care practices over the 12 year period, survival was calculated for three year intervals. Survival was calculated by week of gestational age and by 100 gm increments in birth weight. Statistics for birth weight by gestational age were computed. The percentages of neonates with various diagnoses were computed including: respiratory distress syndrome (RDS), bronchopulmonary dysplasia (BPD), intraventricular hemorrhage (IVH), and retinopathy of prematurity (ROP). Median values were calculated for the length of hospital stay, the duration of mechanical ventilation, and the duration of oxygen administration by gestational age at birth.

*This work was sponsored in part by grants from the Dakota Affiliate of the American Heart Association, the South Dakota State Department of Health, the Parsons Trust Fund and the Children's Miracle Network at Sioux Valley Hospital.

The diagnosis of RDS was based on the clinical impression of the attending neonatologist who cared for the infant using standard clinical and radiographic criteria.¹ Bronchopulmonary dysplasia was defined as the need for supplemental oxygen at a post-conceptual age of ≥ 36 weeks.² Intraventricular hemorrhage was classified using the four grades (I-IV) defined by Papile.³ Retinopathy of prematurity was defined by standard criteria for ophthalmologic screening of premature infants' retinæ.⁴

The purpose of this report is to be descriptive. Because of the small number of subjects and the marked variability of disease in this population, some of the data regarding central tendencies are presented as median (fiftieth percentile) values because means are more subject to the influence of a few extreme values. Survival statistics are for long term survival (over one year), rather than survival for 28 days or survival until discharge from neonatal intensive care. No adjustment was made for neonates with congenital anomalies which were felt to be incompatible with life. Data for survival by gestational age were compared with those reported in the literature.⁵⁻⁸ Investigations used for comparison included the early review of the outcome of 98 extremely low birth weight neonates by Hack et al⁵ in 1982-1988, the report of 28 day survival of 6676 neonates of less than 1250 gms who were a part of a national multicenter trial of cryotherapy for retinopathy of prematurity,⁶ the report of the multicenter National Institute of Child Health and Human Development Neonatal Research Network⁷ which included 1765 neonates of < 1500 gms during the years of 1987-1988, and a study by Allen et al⁸ of the viability of 142 extremely low birth weight neonates of 22 to 25 weeks gestation in 1988-1991.

In an attempt to assess the potential for long term physical and neurodevelopmental impairment, data were compiled in regard to the occurrence of potentially severe disabling conditions. Data for survivors of NICU care were analyzed for the occurrence of bronchopulmonary dysplasia with a requirement for supplemental oxygen at discharge from the hospital, grade III or grade IV intraventricular hemorrhage, and retinopathy of prematurity with retinal detachment.

RESULTS

A total of 312 neonates of ≤ 1000 gms were admitted to the NICU. The mean birth weight was 783 gms. (Standard deviation, s.d. = 146 gms) with a mean gestational age of 26.5 weeks (s.d. = 2.1 wks). Intrauterine growth retardation was diagnosed in 21.5% (n=67) of the neonates and 0.3% (1) were large for gestational age. Approximately 50% (158) of the neonates were male, 72% (226) were delivered at Sioux Valley Hospital,

28% (86) were transported to the NICU, and 61% (190) were delivered by Cesarean section. Eight-five percent (265) of the neonates were Caucasian, 9.3% (29) were American Indian, 1% (3) Oriental, 0.3% (1) African American and the remaining 4.5% (14) were of unknown or unspecified racial backgrounds.

Fifty-nine percent (184) of the neonates survived, which included 54% (85) of males and 64% (99) of females. Sixty-four percent (145) of inborn neonates and 45% (39) of outborn infants survived. Fifty-seven percent (70) of infants delivered vaginally and 60% (114) of those delivered surgically survived. Considering the four three-year time periods, survival increased from 45.3% in 1981-1982 to 64.8% in 1990-1992, with a lower mean birth weight in the latter time period. (Table I).

Table I
Characteristics of the NICU Population
During Three Year Study Periods

Year Category	Years	Number	Mean Weight (gms)	Standard Deviation	Percent Survival
1	1981-1983	64	792	129	45.3
2	1984-1986	86	791	144	61.6
3	1987-1989	91	787	153	61.5
4	1990-1992	71	757	154	64.8
Total	1981-1993	312	783	146	58.9

Evaluation of survival in each of the three-year time periods showed marked variation in the rates when the population was divided into 100 gm increments. Survival for all neonates of 600 to 900 gms improved considerably in the 1984-1986 time period. The last three years had a considerable improvement in survival for all neonates ≤ 700 gms. More specifically, in the past three years the survival for neonates of ≤ 600 gms increased to 54% and that for neonates of 601-700 gms to nearly 73% (Table II).

Table II
Percent Survival by 100 Gram Birth
Weight Group and Three Year Time Period

Birth Weight Group (gms)	Percent Survival by Three Year Interval				Total
	1981-1983	1984-1986	1987-1989	1990-1992	
≤ 600	29(7)	18(11)	31(13)	54(13)	34(44)
601-700	42(12)	67(15)	55(15)	73(11)	58(53)
701-800	36(14)	67(15)	47(17)	56(16)	52(62)
801-900	44(18)	73(22)	68(22)	60(15)	62(77)
901-1000	69(13)	65(23)	88(24)	81(16)	76(76)
Survival ≤ 1000 gms	45.3(64)	61.6(86)	61.5(91)	64.8(71)	58.9(312)

(n) - Indicates the total number of neonates cared for in the specific birth weight category and time period.

Figure 1 presents a comparison of USD/SVH survival by gestational age with other recently published studies.⁵⁻⁸ The data are presented in approximate chronological order according to the time period of the investigations. The report by Allen⁸ does not include information concerning neonates of greater than 25 weeks gestation.

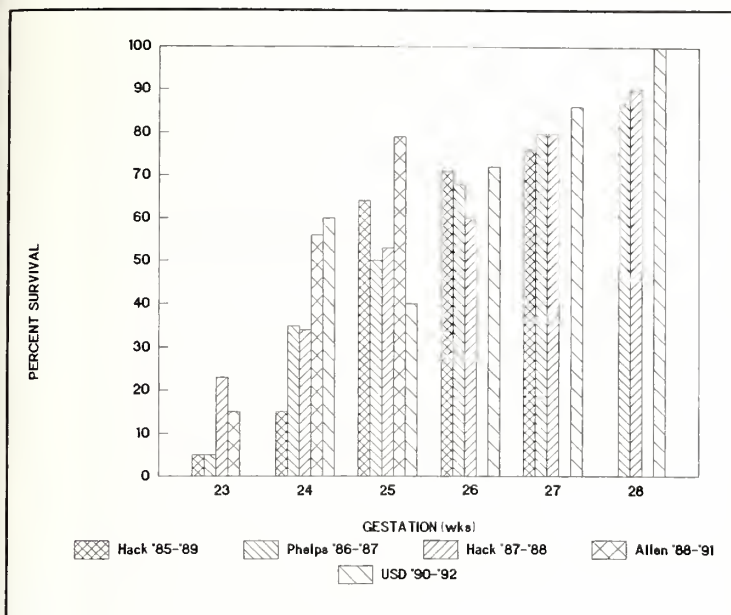


Figure 1

Comparison of the percent survival by weeks of gestation for published reports⁵⁻⁸ and the USD/SVH NICU for 1990-1992. The number of USD/SVH neonates of 23-28 wks gestation were as follows: 1, 10, 15, 25, 7, 4.

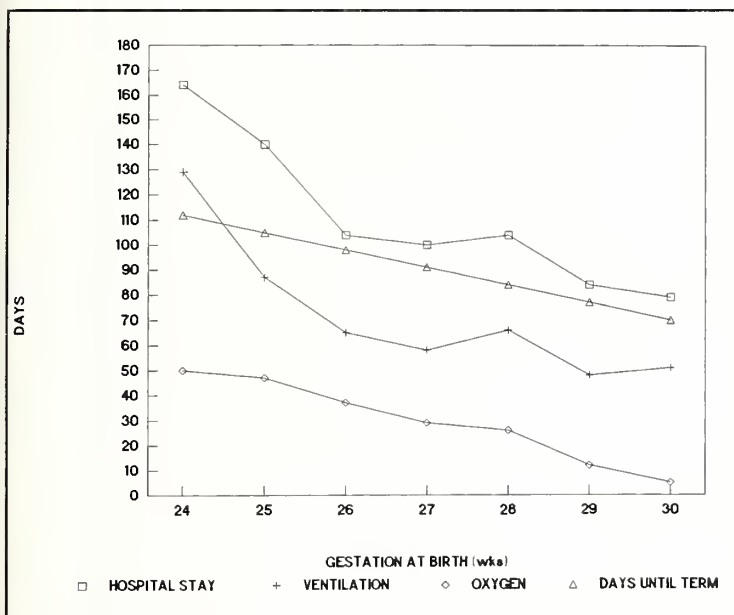


Figure 2

Plot of median values for days of hospitalization, days of oxygen therapy, days of mechanical ventilation, and remaining days until 40 weeks gestation by gestational age at birth.

Analysis of specific neonatal diagnoses indicated that 92% (n=287) of all subjects had a primary diagnosis of respiratory distress syndrome (RDS). Fifty-one percent of survivors (94) had bronchopulmonary dysplasia (BPD); however, only 12.5% (23) of survivors required oxygen after discharge from the hospital. Forty-one percent (128) of infants had an intraventricular hemorrhage (IVH), with an incidence of 50% (64) in non-survivors and 35% (64) in survivors. Eleven percent (21) of survivors and 38% (48) of non-survivors had hemorrhages of Grade III or IV in severity. Sixty percent of survivors (110) had a diagnosis of retinopathy of prematurity (ROP); however, only 3.3% (6) of survivors suffered retinal detachment. Considering the three diagnoses, BPD with the need for supplemental oxygen following discharge from the hospital, ROP with retinal detachment, and Grades III and IV IVH, no survivor had all three, 1% (2) had two, 25% (46) had one, and 74% (136) had none of these diagnoses (Table III). There were nine neonates who expired following discharge from the NICU. Two of these non-survivors had two of the disabling diagnoses, and two had one of the disabling diagnoses noted.

Figure 2 illustrates median values for the length of hospital stay, the duration of oxygen administration, the duration of mechanical ventilation, and the time remaining until reaching 40 weeks gestation, plotted by gestational age at birth. Beyond 26 weeks gestation, the duration of hospitalization is slightly greater than a gestational age of 40 weeks. Tiny neonates of less than 26 weeks required up to 50% more hospital time prior to discharge. Median values for the length of hospitalization from the USD/SVH NICU are 134 and 95 days in neonates of less than and greater than 750 gms respectively.

DISCUSSION

This paper attempts to answer two questions. What is the short term outcome of very low birth weight neonates; and, what are the physical and neurologic outcomes of survivors as they can be assessed at the time of discharge from the NICU?

Figure 1 indicates that there are some discrepancies between the USD/SVH statistics and those reported in other publications. Some of the difference is related to a greater amount of variance in the statistics because of the relatively small number of subjects in South Dakota. Variance is reduced with the large numbers of subjects reported in national investigations. Second, a number of the cited publications included only inborn infants; whereas, this report describes a combination of inborn and outborn neonates. As previously noted, 28% of the USD/SVH population was transported to the NICU. Outborn neonates had a much lower

Table III Disabling Diagnoses at NICU Discharge				
Number of Disorders	BPD	ROP	IVH	Total (%)
0	136	136	136	136 (74)
1	21	6	19	46 (25)
2	2	0	2	2 (1)
3	0	0	0	0 (0)

survival rate which was 19 percentage points lower than inborn infants (45% vs 64%). Third, most of the other reports considered short term survival; whereas this report considered long term survival. Fourth, the other publications have a much different racial mix; whereas, the USD/SVH population was comprised primarily of Caucasian neonates. Last, some of the other centers routinely used exogenous surfactant products in very low birth weight neonates prior to approval by the Federal Drug Administration. All of these factors could account for some of the differences in the survival figures in this population. The USD/SVH service had no survivors of less than 24 weeks gestation; although, only 10 neonates of such low gestation were seen in the NICU. The other centers generally reported survival rates of much less than 20% in this group of neonates. Considering the previously noted differences, the comparison of the USD/SVH data with published statistics indicates comparable rates of survival at nearly all gestational ages.

The recent article by Allen et al⁸ considers the issue of the outcome of neonates at the limit of viability. These authors categorized severe neurodevelopmental abnormalities in a manner very similar to the method used in this report and found that 98% of survivors at 23 weeks and 79% of survivors at 24 weeks had severe abnormalities or late death. At 25 weeks gestation only 31% had poor outcomes. The authors,⁸ and the authors of the accompanying editorial,⁹ acknowledge the complexity of the decision to provide aggressive intervention for very tiny neonates; but, were unable to resolve the dilemma sufficiently to make specific recommendations. From these data, it appears that aggressive support at ≥ 24 weeks is advisable, and that support before this gestation deserves considerable evaluation of the entire situation including discussion between the family, the family physician and specialists in obstetrics, maternal-fetal medicine, and neonatology prior to making a decision in regard to the most appropriate intervention. Multiple factors involved in this decision include the size, maturity and physiologic stability of the infant, the family psycho-social and emotional state, the mother's previous reproductive and medical history, and an estimate of the possibility of survival and of normal physical and neurodevelopmental outcome of the infant. To ensure an optimal outcome, delivery and care must occur in a perinatal center which can provide optimal care for the mother and immediate stabilization of the neonate by skilled professionals in neonatal medicine 24 hours per day.

The frequency of occurrence of the specific neonatal disorders, previously outlined, was comparable to statistics reported in the literature. The frequency of RDS (92%) is comparable to approximately 84% reported in the Vermont Oxford Trials.¹⁰ Using the traditional clinical definition of BPD,¹¹ this disorder was diagnosed in 81% of the USD/SVH survivors. Using the more conservative definition of BPD² previously described in this paper, 51% of NICU survivors had the disorder. The Vermont Oxford Trials¹⁰ reported that 66% of all of their subjects who were alive at 28 days required oxygen; whereas, Ferrara et al¹² reported that approximately 90% of their survivors had BPD. Thirty-five percent of survivors of the USD/SVH NICU had an IVH. The Vermont Oxford Trials¹⁰ reported IVH in 32% of neonates who had cranial imaging performed, and Ferrara et al¹² reported IVH in approximately 40% of their survivors. Retinopathy of prematurity was diagnosed in 60% of the USD/SVH survivors compared with 68% reported in the Vermont Oxford Trials.¹⁰ Ferrara et al¹² reported blindness in as many as 2.6% of very low birth weight neonates. The USD/SVH NICU had a 3.3% (6) incidence of retinal detachment; however, this cannot be directly compared with total blindness because frequently retinal detachment is unilateral.

This paper cannot specifically address the issue of long term follow-up; however, survivors were evaluated for serious and potentially disabling disorders at the time of discharge from the NICU (Table III). Twenty-six percent of survivors of the USD/SVH NICU during this 12 year period had one or more serious conditions as defined in the Methods Section. This compares favorably with the previously cited data from other institutions.⁸ The reader is cautioned that these data represent a very preliminary evaluation of the outcome of very low birth weight NICU survivors. All neonates with one or more of the disabling diagnoses will not necessarily have permanent disability. Conversely, neonates who were not found to have these disabling disorders may not necessarily be normal when evaluated years in the future.

It is apparent that NICU care of the very low birth weight neonate consumes considerable resources. Hack et al⁷ reported a mean duration of hospitalization for neonates of 501-750 and 751-1000 gms of 114 and 80 days respectively. The Vermont-Oxford Trials Network¹⁰ reported means of 108 and 84 days respectively. Hack et al¹³ reported a mean length of hospitalization for neonates of < 750 gms of between 109 and 154 days. Allen's⁸ data indicated an average length of hospitalization of 91 days in neonates of 23-25 weeks gestation. Earlier investigators reported a much longer mean length of hospitalization of 135 days in neonates delivered before 27 weeks gestation.¹⁴ As noted from the above studies, with the improvement in NICU care over the past decade, the duration of hospitalization has continued to decrease. Median values from the USD/SVH NICU fall within one standard deviation of the means of the cited reports. Preliminary data from the USD/SVH NICU for 1993 has mean values com-

parable to the lower values reported above.

CONCLUSION

During the past 12 years, the survival of very low birth weight neonates in the USD/SVH NICU has improved by approximately 20 percentage points. Survival rates by gestation and birth weight categories are comparable to those reported nationally. Preliminary outcome data are encouraging; although, national data indicate a guarded prognosis in neonates delivered before 24 weeks gestation. Complex issues need serious consideration when care decisions are made in regard to the delivery of very immature neonates. Hopefully, the information presented in this review will be useful to care providers and families when such concerns must be addressed.

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REFERENCES

1. Whitsett JA, Pryhuber GS, Rice, WR, et al: Acute Respiratory Disorders. In: Avery GB, Fletcher MA, MacDonald MG, eds. *Neonatology: Pathophysiology and Management of the Newborn*, Fourth Edition, J. B. Lippincott Co 1994;429-438.
2. Shennan AT, Dunn MS, Ohlsson A, et al: Abnormal pulmonary outcomes in premature infants; prediction from oxygen requirements in the neonatal period. *Peds* 1988;82:527-532.
3. Papile LA, Burstein J, Burstein R, Koffler H: Incidence and evolution of subependymal and intraventricular hemorrhage: a study of infants with birth weights of less than 1500 gm. *J Ped* 1978;92:529-534.
4. An international classification of retinopathy of prematurity. *Peds* 1984;74:127-133.
5. Hack M, Fanaroff AA: Outcomes of extremely low birth weight infants between 1982 and 1988. *N Engl J Med* 1989;321:1642-1647.
6. Phelps DL, Brown DR, Tung B: 28-day survival rates of 6676 neonates with birth weights of 1250 grams or less. *Peds* 1991;87:7-17.
7. Hack M, Horbar JD, Malloy MH, et al: Very low birth weight outcomes of the National Institute of Child Health and Human Development Neonatal Network. *Peds* 1991;87:587-597.
8. Allen MC, Donohue PK, Dusman AE: The limit of viability-neonatal outcome of infants born at 22 to 25 weeks' gestation. *N Engl J Med* 1993;329:1597-1601.

9. Hack M, Fanaroff AA: Outcomes of extremely immature infants—a perinatal dilemma. *N Engl J Med* 1993;329:1649-1650.

10. The Vermont-Oxford Trial Network: Very low birth weight outcomes for 1990. *Peds* 1993;91:540-545.

11. Northway WH, Rosan RC, Porter DY: Pulmonary disease following respiratory therapy of hyaline membrane disease: bronchopulmonary dysplasia. *N Engl J Med* 1967;276:357-368.

12. Ferrara TB, Hoekstra RE, Couser RJ, et al: Survival and follow-up of infants born at 23-26 weeks of gestational age: Effects of surfactant therapy. *J Ped* 1994;119-124.

13. Hack M, Fanaroff AA: Changes in the delivery room care of the extremely small infant (<750 gms): Effects on morbidity and outcome. *N Engl J Med* 1986;314:660-664.

14. Nwaesei CG, Young DC, Byrne JM et al: Preterm birth at 23 to 26 weeks' gestation: is active obstetric management justified? *Am J Obstet Gynecol* 1987;94:670-674.

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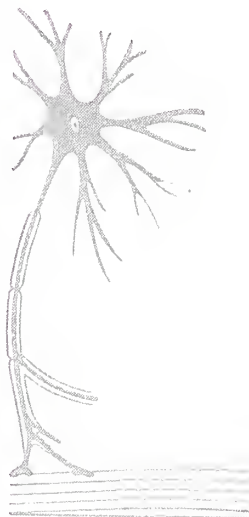
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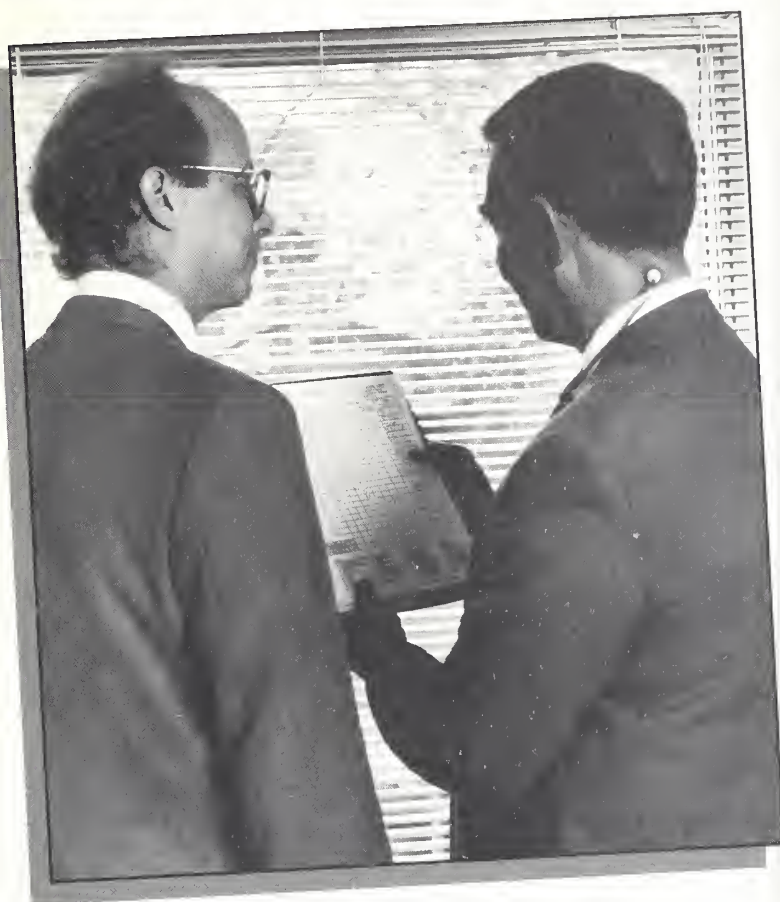
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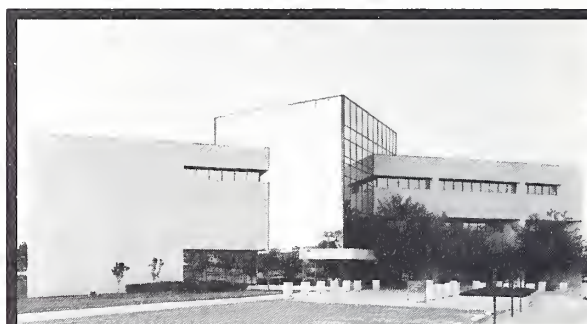
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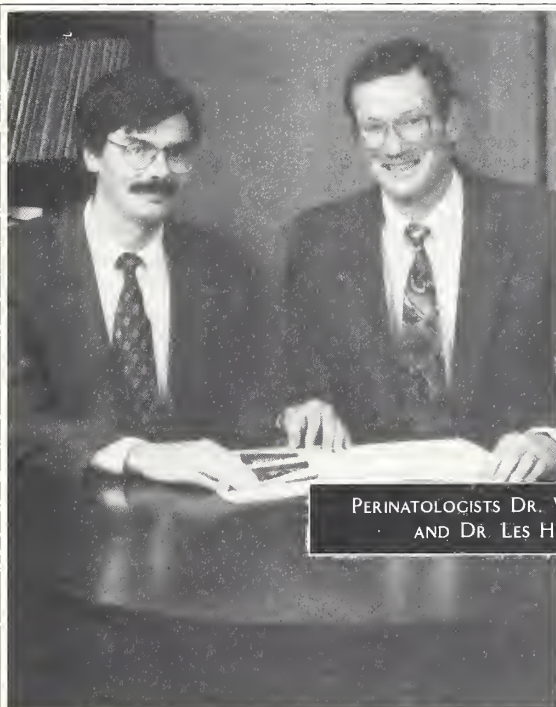
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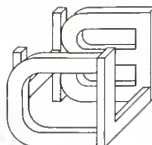
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South Dakota Foundation for Medical Care

Most all physicians in South Dakota have been involved in quality improvement activities for many years. Through local hospitals, specialty societies, state and national physician associations, physician Peer Review Organizations (PROs), and other groups, physicians have actively worked together to assess and improve quality of patient care.

The mechanisms through which physicians assess patient care are ever changing. Changes include increased computerization and other technologies making it possible to expedite analysis of massive amounts of patient care information. Other changes include the emerging availability of measurement mechanisms such as practice parameters, report cards, and the concept of total quality management (TQM).

The most currently acceptable mechanism developed by the Health Care Financing Administration for assessing patient care is through the Health Care Quality Improvement Program (HCQIP). A major thrust of this program is the establishment of cooperative projects between SDFMC, hospitals, and physicians to identify trends in care that need improvement and to examine patterns where improvement has maximum effect. We ask for your full cooperation in these projects with Dr Bruce Lushbough, Clinical Coordinator, and his staff.

Physician involvement remains a critical part of the changing future. Physicians remain the guardian of quality assessment and improvement. Physician direction is necessary to assure that the massive amounts of patient care information is not incorrectly reported with unsound conclusions. As practice parameters are developed, physicians must take the lead and assure that these guidelines contain well researched aspects of patient care.

I want to express my appreciation to those physicians who have come forward in the past to help improve the care we deliver to our patients and to encourage all physicians to remain the guardian of quality assessment and improvement.

Gerald E. Tracy, MD
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**Helen Owens, President, South Dakota
State Medical Association Alliance**

*"If a tree falls in a forest, but no one is there to hear it,
does it make a sound?"*

This question has been posed by many college professors. It launched quite a debate when I was in Philosophy 101, and I still think about it from time to time. Recently, I thought about it in terms of the Medical Alliance. If we work diligently within our organization to define goals, set priorities, revise bylaws and standing rules, but fail to present ourselves in the community through project work and community service, then do all those other activities really matter? Maybe yes, maybe no. I tend to argue with the "no" side. Working on those projects puts us in touch with the real needs of our communities and lets the people in those communities know that we care.

I am grateful for the kind and generous support that the Alliance has received from the SDSMA Board of Directors and from physicians across the state. With that support, the Alliance will "make a noise" in each of our districts.

The following physician's spouses have generously agreed to lead our Alliance districts this year.

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SOUTH DAKOTA HEALTH SCIENCES INFORMATION CENTER



The electronic library will be here sooner than most people realize. As with the music CD, we will look back at the establishment of the digital library and wonder how it happened so quickly. In many universities today there are large signs over traditional card catalogs that say, "Please use the terminals—the card catalogs have not been updated since 1987." This is just a sign of more changes to come.

The purpose of libraries has always been to allow people to stand on the shoulders of those who have come before them. This is the foundation of our civilization, the ability to find and leverage the work of others. Personal computers, software applications, and digital information now provide the library user with a new set of tools to make that work faster, less expensive, and more thorough. They are also changing the very definition of what a library is, and moving us toward the library of the future: the electronic library.

—Norman Kline, President, CASPR Inc.

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Extenuating Circumstances

A periodic column of personal, ethical, and socioeconomic reflections on medicine.

Frederick A. Spafford, MD (1855-1922)

Ardyce Habeger Samp

Dr Frederick Spafford, early physician, surgeon and educator, was inducted into the South Dakota Hall of Fame at the 1994 Recognition Banquet held on October 1, 1994 in Mitchell.

Dr Spafford's contributions to medicine and education through his years of dedication and service are the criteria for this honor.

Spafford, a native of Ludlow, Vermont, came to Dakota Territory in 1884 to establish a medical and surgical practice at Flandreau; and he spent 38 years, until his death in 1922, dedicated to health care and the establishments of education for South Dakota.

He was a graduate of Black River Academy, Vermont, and received his Doctorate of Medicine from Dartmouth Medical College, 1879. His post-graduate work was from the New York Polyclinic, 1900, and from Berlin, Germany and Edinburgh, Scotland.

From 1877-1884, he was professor of Latin and Greek at Shaw University, North Carolina and of anatomy at Leonard Medical School, Raleigh, North Carolina.

Frederick's boyhood friend, George Pettigrew, came to Flandreau six months prior to Spafford. They practiced together for several years before Dr Pettigrew moved to Sioux Falls.

The accomplishments of Spafford are difficult to encompass in a review; however, he was a horse-and-buggy (sleigh) doctor who treated patients in a large radius which included the present Brookings, Moody, Lake, Minnehaha counties of South Dakota and into Minnesota's Pipestone County, serving both white and Indian populous.

It is a conservative estimate that he delivered more than 2,000 babies and that he did thousands of surgery procedures, often under very adverse conditions. During the 1918 influenza epidemic, he worked around the clock by using two sets of horses and drivers, while he slept between house calls to the sick.

The first library in the area was located in the Spafford home as the doctor lent books to all who wished to read.

During World War I, Spafford was appointed medical aid to Governor Peter Norbeck with a rank of Captaincy. All examinations and appointments of physicians for the military were handled through him.

His work in higher education is exemplary in years of service and accomplishments. In 1897, he was appointed by Governor Andrew Lee and reappointed by Governors Herreid and Norbeck to the South Dakota Board of Regents and was still serving at the time of his death.

In his sixteen years as a Regent, he served as president for ten years. The higher education system of the University of South Dakota, Vermillion; Agricultural College, Brookings; four teacher-training normal schools at Madison, Spearfish, Aberdeen, Springfield plus the School of Mines, Rapid City, were developed, expanded and directed through the jurisdiction of the Regents.

Spafford was the lone regent in charge of the Agricultural School, Brookings, and he was instrumental in the establishment of the School of Medicine, Vermillion, and he was a frequent lecturer at the school.

Many of his trips to meetings were made by train transportation.

Lillian Spafford Rolfe, only child of Spafford, had said, "Papa was never happier than when visiting schools under the charge of the Regents."

Spafford Elementary School, Flandreau, was dedicated in 1926. He had served for 27 years on the Flandreau School Board of Education.

Dr Charles Mayo traveled, by train, from Rochester, MN to Aberdeen, SD to deliver the key-note address when Spafford Hall, Northern State Normal School (now Northern State University) was dedicated in 1928.

His honors in the field of medicine were: South Dakota State Medical Association: 1898 - 1914, President, 1914 - 1922, Secretary. He was Charter member of the American Medical Association, The American College of Surgeons, the Sioux Valley District Medical Society, first President of the Moody County Red Cross and the American Association of Science and Medical Officer for the Rigg's Institute, now Flandreau Indian School.

His portrait hangs in Spafford School, Flandreau, SD, Spafford Hall, Aberdeen, SD and in the South Dakota State Capitol, Pierre, SD.

The Journal-Lancet, official medical journal for the North and South Dakota Medical Associations, March 15, 1922; in part..."He knew medicine as an art and as a

science. His contact with men, sick or well, was healing, for he studied the humanities in both literature and life ...he gave service."

The motto of the South Dakota Hall of Fame is apropos for honoring such individuals: "One Must Know the Past, To Understand the Present, To Prepare for the Future."

AUTHOR

Ardyce Samp, a resident of Flandreau, has been an author and freelance writer for many years. She wrote for *The Sioux Falls Argus Leader* and other papers for 22 years. Currently she is interested in historical research and writing. She regularly contributes to *The South Dakota Liner (REA) Magazine* and *The South Dakota Hall of Fame Magazine*. She nominated Frederick Spafford, MD to the South Dakota Hall of Fame and he was inducted at the annual banquet in Mitchell, on October 1, 1994. Ardyce is author of the book, "When Coffee Was A Nickel", now in its fourth printing

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New and Improved ACLS

Janet Fischer, Pharm.D, Certified ACLS Instructor, Sioux Falls, SD

In October 1992, the *Journal of the American Medical Association* published the newest guidelines for cardiopulmonary resuscitation and emergency cardiac care. These guidelines are the recommendations of a National Conference of the American Heart Association's Emergency Cardiac Care Committee. Though the new guidelines have been available for two years and incorporated into the Advanced Cardiac Life Support (ACLS) course, instructors have been hampered by the lack of updated materials for the course. Now, however, South Dakota hospitals have received the new textbooks and teaching materials and are in the process of updating the entire course.

The new course is significantly different from the old one in terms of course format. The old course was composed of about 50% lecture and 50% "hands-on" material presented in the form of group teaching stations. The new course has reduced the lecture material down to only a few hours and instead uses small group "case study" discussions for two-thirds of the course. The case studies cover all of the major categories of cardiac emergencies: ventricular fibrillation, bradycardia, tachycardia, myocardial infarction, etc. The case studies are designed to promote group discussion and allow hands-on practice with resuscitative equipment. The discussion for each case study centers around recognition of the problem, possible causes, therapeutic options and potential complications. Each participant is evaluated for his/her competency in that area based on their participation and performance in the discussion. In addition, participants complete a written test and "mega-code"—a simulated code which the participant must run.

In addition to the format, the content of ACLS has changed considerably with the new guidelines. Many of the changes involve the drug therapy for the various situations, but there have also been important changes in the format of the algorithms and the addition of several new algorithms. There is now a universal algorithm that stresses the ABC's of cardiopulmonary resuscitation and rapid assessment of the problem. There is a new algorithm for pulmonary edema, hypotension and shock that focuses treatment based on whether the patient has a volume problem, pump problem or rate problem. There is also a new algorithm for MI which stresses a "door to drug" team approach to deliver thrombolytic agents to patients as quickly as possible. The tachycardia algorithms have been combined into one that is much easier to understand.

Another new change is the use of class designations for drug recommendations. Since there are controversies over when to use certain drugs and what dose to use in certain situations, the AHA has given a rating or "class" to different drug recommendations and has included these as footnotes in the algorithms.

Changes in drug therapy recommendations with the new guidelines involve both drug doses and choices. Atropine and epinephrine are now recommended to be given at more frequent intervals and high dose epinephrine is an option. The use of sodium bicarbonate and calcium chloride continue to be discouraged, but now isoproterenol has also been added to this list. Atropine and trans-thoracic pacing are first-line agents for bradycardia, and dopamine and epinephrine are preferred over isoproterenol as second-line therapy. Adenosine is now considered the drug of choice for PSVT, with verapamil as an option in patients with elevated blood pressure. Normal saline is now the preferred fluid for resuscitation, instead of D5W. Dosage guidelines for lidocaine have been simplified somewhat and its use as a prophylactic agent is now discouraged. A greater emphasis on aggressive treatment of MI's, including thrombolytics, has also been incorporated in the new guidelines.

Perhaps the most important part of the new guidelines is the focus on public education and community emergency systems. Bystanders need to be able to perform CPR and well-trained paramedics must respond quickly so that patients can survive and recover from out-of-hospital arrests. These are the crucial areas that can make the most difference in patient survival. Physicians who work in this area need to stay abreast of the changes and participation in an ACLS course is an easy and inexpensive way to stay current.

REFERENCES

1. Guidelines for cardiopulmonary resuscitation and emergency cardiac care. *JAMA* 1992;268:2171-2302.
2. Cummins RO, ed: Textbook of advanced cardiac life support. Dallas, TX. Am Heart Asso 1994.



Edited by Brian Kaatz, Pharm.D.



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This Is Your Medical Association

B. T. Otey, MD, 79, who came to Flandreau in 1953 from Memphis, TN because he wanted a more personal relationship with his patients, died suddenly while visiting relatives in Washington, D.C.

Bedford Taylor Otey was born on March 27, 1914 at Melber, Kentucky. He received his education in Melber and graduated from Murray State University. He graduated in 1937 from the University of Tennessee Medical School. He served in the medical corp of the US Army as a major serving in North Africa and Italy from 1942-1945. He interned in St. Louis and practiced in Memphis from 1937-1953. He then moved to Flandreau in 1953 and practiced there until his retirement in 1983. He was a member of the 2nd Presbyterian Church and an Elder of the Church; he was on the Library Board and the Crystal Restoration Board. He was a member of the AMA, South Dakota State Medical Association, the American College of Surgeons, and the American College of Family Practice and a member of the 3rd District Medical Society and served as president. He also served as president of the SD American Cancer Society.

He is survived by his wife, Cathy, Flandreau; three sons: Louis and his wife, Gloria, Stormville, NY; Hal and his wife Lori, Memphis, TN; Ned and his wife, Kirstin, Louisville, CO; two daughters: Sondra, Mrs Douglas Hartley, Washington, D.C.; Catherine L. Otey, Manchester, NH; four grandsons: B.J., Samuel, Nathan and Travis.

Bernard S. Clark, MD, of Spearfish, died recently at the age of 88. He was born November 5, 1905 in Lead. He attended Lead Public Schools and Spearfish Normal School, and graduated from Shattuck School, Fairbault, MN, in 1928. After undergraduate years at the University of Wisconsin and Columbia University, he received his medical degree from Washington University in St. Louis in 1932. He interned at Denver General Hospital. A pediatrics residency at Los Angeles Children's Hospital was interrupted by the Great Depression.

In 1934, Dr Clark married Martha Garth Stoecker of Manchester, MO. Also that year, he accepted a position as a company physician with Homestake Mining Company in Lead.

He opened an office for private practice in Spearfish in 1939. From 1941 to 1946, he served as a medical officer in the U.S. Army. After serving overseas in the North African Campaign, he was discharged as a major. Dr Clark returned to his practice in Spearfish in 1946 and retired in 1970.

Dr Jose Teixeira, a cardiologist and electrophysiologist at Rapid City Regional Hospital, has passed the North American Society of Pacing and Electrophysiology exam. The exam is given every two years for physicians involved in electrophysiology and pacemakers.

Nancy Roberts, DO, Aberdeen otolaryngologist, has successfully completed the certifying exam of the American Board of Otolaryngology and is now a diplomate of the ABO.

Tyndall family doctor, **Herbert Saloum**, was named Family Doctor of the Year by the South Dakota Academy of Family Physicians at its annual summer seminar in Rapid City. The Academy makes this annual selection based on the physician's commitment to health care in his community, his contributions to the profession of medicine, his standing with the Academy and his involvement in his community.

Dr Saloum, who has practiced in Tyndall for over 20 years, is also a candidate for the 1995 National honor. He established the Bon Homme County Family Practice Clinics, which are a model for rural health care networking; is an instructor at the USD School of Medicine; a member of the Tyndall Rotary Club; SD Civil Air Patrol; and is a Boy Scout leader.

Martin J. Christensen, MD, of Mitchell, has been elected president of the South Dakota Academy of Family Physicians at its 25th annual Black Hills Summer Seminar in Rapid City. Dr Christensen has been on the board of directors since 1989, has served as vice president for three terms and as president-elect during the last year. **Richard Honke, II, MD**, Parkston, was installed as a vice president for the 1994-95 year.

Dave R. Johnson, MD, Rapid City, has been elected a fellow of the American College of Physicians, the professional organization of internists.

Dr Paul Eckrich, an Aberdeen urologist, has completed written and oral exams from the American Board of Urology. He is now a board certified urologist serving both adult and pediatric patients in the Aberdeen area.

University of South Dakota School of Medicine announces that **James W. Labesky, MD**, was appointed assistant professor of internal medicine.

continue next page

Sioux Falls perinatologist, **William J. Watson, MD**, has been listed in the 1994-95 edition of "The Best Doctors in America." Dr Watson is one of 7,200 doctors listed from more than 350 areas of medical expertise. He is a Washington native who has been in Sioux Falls for two years. He received his medical degree from the University of Washington, Seattle, in 1980 and a fellowship, in perinatology, at the University of North Carolina in 1990. He has published 75 articles in medical journals; he is on staff at Obstetrics and Gynecology Ltd and is medical director of perinatal outpatient and transport services at Sioux Valley Hospital.

University Physicians announces that **Dr John L. Boice** and **Dr Robert N. Santella**, both of Sioux Falls, were certified in geriatric medicine by the American Board of Internal Medicine. And Rapid City physician, **Dr Kelly E. Vaughn-Whitley**, has passed the Cardiovascular Disease Examination of the American Board of Internal Medicine.

Drs Steven Waltman, Rapid City, and **Peter Lakstigala**, Sioux Falls, have completed continuing medical education requirements to retain active membership in the American Academy of Family Physicians (AAFP).

Watertown physicians, **Michael C. Preys, MD** and **Gregory R. Larson, MD** are now certified by the American Board of Family Physicians. **Drs John E. Rittmann** and **Clark W. Likness** of Watertown, and **Joel B. Huber** of Miller have been recertified by the American Board of Family Physicians.

The American Board of Surgery has announced that **Edwin S. Gerrish, MD** of Watertown, and **Dennis G. Leland, MD** of Mitchell have successfully completed the recertification process for their Board; **Frederick L. Harris, MD** and **Donald J. Wingert, MD**, both of Sioux Falls, have successfully completed certification in Surgical Critical Care.

Yankton physician, **David W. Withrow, MD** and Watertown physician, **Craig E. Crismon, MD** have successfully completed requirements for membership by the American Board of Pediatrics.

Dr Kenneth Rogotzke of Watertown received the honor of Fellow from the Osteopathic College of Otorhinolaryngology-head and neck surgery.

Correspondence

Dear Editor:

Included here is a poem by Arlene Tyler. Mrs Tyler is a patient of mine who has been sending me poems periodically over the years and this is a good example of her work.

She is a retired English teacher, living in Brookings, who now enjoys writing poetry, walking cats and occasionally babysitting at our house.

I hope this poem about the AMA's response on physician handwriting leaves you smiling like it did me.

Richard P. Holm, MD
Brookings, SD

Penmanship

*In listening to the news the other night,
If I may be so bold,
Was an AMA message for doctors
Which I hope they will behold.
For many MDs poor penmanship
Is a mark of their profession.
Somewhere along in medical school
It became an important obsession.*

*So now the AMA has asked
That they bear the bitter pain
Of learning to write more legibly,
Before all of us go insane.
Or injure ourselves standing on our heads, Or twisting
our necks awry,
and kill ourselves trying to read
What the doctor has written and why.*

Arlene Tyler
Brookings, SD

Dear Editor:

As you know, there are thousands of genetic disorders, and many of them are considered to be rare. Ehlers-Danlos syndrome is one such rare genetic disorder and, as Director of the Ehlers-Danlos National Foundation, I would like to take just a few moments of your time to enlighten you about Ehlers-Danlos syndrome.

continue next page

Ehlers-Danlos syndrome (EDS) is a group of hereditary connective tissue disorders, characterized by abnormalities of the skin, ligaments and internal organs. EDS is estimated to affect approximately 1 in 5,000 individuals. Clinical manifestations of EDS can include skin hyperelasticity, easy bruising, abnormal scarring, poor wound healing and joint hypermobility. Internal complications, usually found in type IV, can include gastrointestinal perforation and/or spontaneous arterial rupture. Pregnancy should be approached with caution because some forms of EDS can cause serious complications such as bleeding or tearing during childbirth or premature births may occur.

I created the Ehlers-Danlos National Foundation (EDNF), a national non-profit organization, in 1985 after being diagnosed with the disorder at age 25. Diagnosis at a later stage in life is not uncommon, because many people are either misdiagnosed with other disorders, or not diagnosed at all. We now have more than 1,500 members and our membership continues to grow at a very rapid rate. Our primary objective is to provide emotional support and updated information to those who are affected by this disorder, and to serve as a vital informational link to and from the medical community. In addition, it is our desire to inspire and support research on EDS.

Our goals are accomplished by publishing a quarterly newsletter, appropriately entitled *Loose Connections*; maintaining a computerized database which allows interested members to communicate with one another; providing physician referral assistance when possible, and by sponsoring annual Learning Conferences.

If you have patients with EDS, or if you would just like some additional information for your files, please contact: Nancy A. Rogowski, Executive Director, Ehlers-Danlos National Foundation, PO Box 1212, Southgate, Michigan 48195, Phone: (313) 282-0180

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
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CME CONFERENCES

OCTOBER 1994

- October 4 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 5 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Kenneth D. Grant, MD, JD, FACP, Topic: Dealing with Medical Liabilities Involved in the Treatment of Cardiovascular Disease, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 6 **Biomedical Ethics** - East Auditorium, Rapid City Regional Hospital, Info: Medical Staff Office - 341-8705.
- October 6 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- October 6 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Dr. Donald Kreger, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- October 6 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- October 6 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 6 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 6 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- October 7 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: Dr. Donald Kreger, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- October 7 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- October 7 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 7 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 10 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- October 11 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- October 12 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- October 12 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: Stephen L. McDonough, MD; Topic: Hantavirus: an Emerging Infectious Disease; Info: Connie Kleinsasser, USDSM - 357-1480.
- October 12 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Thomas Hyers, MD, Topic: Low Molecular Weight Heparins, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 13 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- October 13 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiopulmonary Dept, 339-8171.
- October 13 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- October 13 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 13 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 13 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- October 14 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 14 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 18 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- October 19 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Clive Page, MD, Topic: Asthma Management: The Great Beta Agonist Debate, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 20 **Geriatric Forum** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 20 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 20 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 20 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

- October 20 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- October 20 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- October 21 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- October 21 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- October 24 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- October 26 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Michael Silber, MD, ChB, Topic: A Review of the Parasomnias, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- October 26-27 **ACLS Provider Course** - McKennan Hospital, Info: 339-8096.
- October 26 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: Kevin Vaska; Topic: Atrial Fibrillation Therapy; Info: Connie Kleinsasser, USDSM - 357-1480.
- October 26 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- October 27 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- October 27 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- October 27 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- October 27 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- October 27 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- October 28 **Tumor Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- October 28 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- October 28 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.

NOVEMBER 1994

- November 1 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- November 2 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Henry Travers, MD, Topic: Sudden Death, an Arcane Tumor, the Influence of Will Adams on the Tokugawa Shogunate and Piltdown Man Hoax, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- November 3 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- November 3 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- November 3 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- November 3 **West River Internal Medicine Grand Rounds** - 2:00 pm, Hot Springs VA Hospital, Speaker: Kevin Vaska, MD; Topic: Update in Managing Acute Myocardial Infarction; Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- November 3 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- November 3 **Biomedical Ethics** - East Auditorium, Rapid City Regional Hospital, Info: Medical Staff Office - 341-8705.
- November 3 **Clinical Pathology Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced; Topic: to be announced; Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- November 4 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- November 4 **West River Internal Medicine Grand Rounds** - 11:00 am, Fort Meade VA Hospital, Speaker: Kevin Vaska, MD; Topic: Update in Managing Acute Myocardial Infarction; Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- November 4 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- November 4 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- November 8 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- November 9 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: Cynthia Hale, MD; Topic: Field-Based Community Medical Education-An Example of an Innovative Medical School in Kathmandu, Nepal; Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- November 9 **Dermatology Conference** - 7:30 am, Laboratory of Clinical Medicine, Sioux Falls, Info: Dana - 339-6537.
- November 9 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- November 9 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: James E. DuBe, Pharm.D.; Topic: Pharmacology of Analgesics; Info: Connie Kleinsasser, USDSM - 357-1480.
- November 10 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced; Topic: To be announced; Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- November 10 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.

- November 10 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- November 10 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- November 10 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- November 10 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- November 11 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- November 11 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- November 15 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- November 15 **PALS Renewal Course** - McKennan Hospital, Info: 339-8096.

MISCELLANEOUS MEETINGS

NOVEMBER

- November 11-13 **Anesthesia and the Geriatric Patient**, Marriott Pavilion Hotel, St. Louis, MO. Fee: \$350. 15.75 hrs AMA Category 1 credit. Contact: CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.
- November 18 **Women's Healthcare Issues '94**, Ritz-Carlton Hotel, St. Louis, MO. Fee: \$150. 7.5 hrs AMA Category 1 credit. Contact: CME, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.

DECEMBER

- December 1-3 **Obstetrics and Gynecology Conference**, Bally's, Las Vegas, NV. Fee: \$275. Contact: Ctr for Cont Educ, Univ of Neb Med Ctr, 600 S 42nd St, Omaha, NE 68198-5651. Phone: (800) 642-1095.
- December 1-3 **Cardiopulmonary Medicine**, Holiday Inn East, St. Paul, MN. Fee: \$275. 16 hrs AMA credit. Contact: St. Paul-Ramsey Med Ctr, CME, 640 Jackson St, St. Paul, MN 55101. Phone: (612) 221-3992.
- December 10 **Cardiology for the Geriatric Patient**, Ritz-Carlton Hotel, St. Louis, MO. Contact: Cathy Sweeney, Off of CME, Washington Univ School of Med Ctr, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: (800) 325-9862.

JANUARY

- January 12-13 **Geriatric Update in Clinical Practice**, Rushmore Plaza Holiday Inn, Rapid City, SD. Contact: Barb Wagley. Phone: (605) 357-1340.

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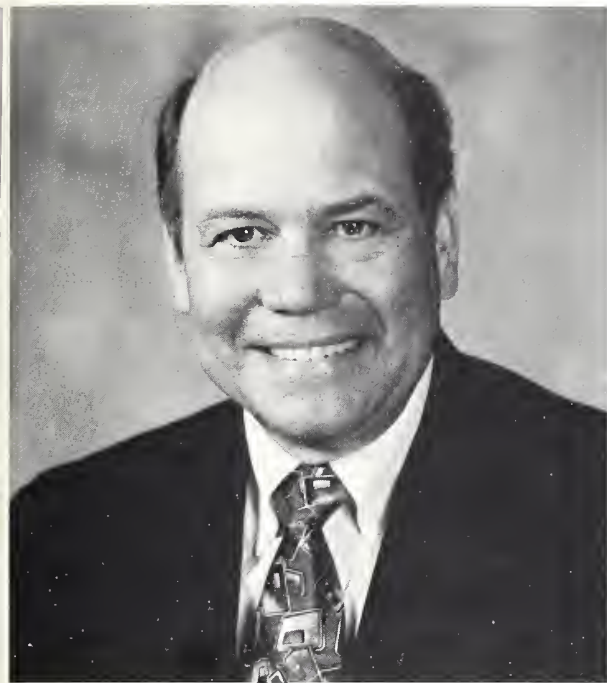
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**James R. Reynolds, MD, President
South Dakota State Medical Association**

At the annual meeting of the South Dakota State Medical Association, the House of Delegates passed a resolution supporting and sponsoring legislation that will allow any willing provider to participate in any health plan in South Dakota. Since then in discussions I have had with other physicians, it is clear that there is confusion as to the meaning of any willing provider legislation. I would like to clarify this as well as look at the pros and cons of such legislation.

The definition of any willing provider means that the provider agrees to practice within the limitations of a given managed care organization (HMO, PPO, PHO, PO, etc) plan's contract in order to have access to that plan's patients. What does this mean then for the patients, the plan, and for providers?

For Patients Any Willing Provider Means:

- continuity of care with already established providers
- choice of many providers rather than a limited panel of providers arbitrarily chosen by the plan
- providers can remain advocates of their patients rather than become pawns of the plan and its financial goals

For Providers Any Willing Provider Means:

- that the provider must be fully qualified, credentialed and licensed
- the provider's scope of practice is defined by his qualifications and the plan's practice guidelines
- accepts compensation as the plan contract offers
- must abide by cost effective, quality preserving practice guidelines
- cannot be eliminated from a plan by arbitrary criteria or without due process

For the Managed Care Plan Any Willing Provider Means:

- that competition as it relates to coverage, benefits, deductibles, etc is preserved between plans
- that plans may require quality standards, ie board certification within 5 years of residency completion
- that defined criteria for application, selection and termination be publicly available
- that a due process provision is available for providers not selected or terminated
- does not rob plans of the right to contract with providers who are willing to practice cost effective quality medicine

Next month I will outline the arguments for and against such legislation and look at its applicability in the rural setting of South Dakota. In addition, the ability to preserve the goal of all medical providers to keep our focus on the welfare of the patient rather than on the welfare of any particular health care plan must be considered.

A handwritten signature in cursive script that reads "James R. Reynolds". The ink is dark and the signature is fluid.

Council Meeting Highlights

The Council of the State Medical Association met on September 23, 1994, in Sioux Falls. Following are highlights from this meeting.

1. **DISTRICT 9 ALTERNATE COUNCILOR**—Dr Thomas Hermann was seated as alternate delegate from the Black Hills District Medical Society.
2. **MINNESOTA CARE LAWSUIT**—Word was received that the Minnesota Court ruled the 2% tax on South Dakota physicians is unconstitutional. Minnesota is expected to file an appeal and it is anticipated that a final ruling will be made by the summer of 1995.
3. **MEDICAL STUDENT MEMBERSHIP**—The Council voted to solicit SDSMA physician members to sponsor a freshman student during his/her years at USDSM. To do this the physician would pay \$93 to cover the cost of State and AMA dues for the student for all four years. The intent is to get students involved and interested in the business side of medicine and to offer each student a physician mentor.
4. **LEGISLATION**—A number of legislative items were considered, however, the Commission on Legislation and Governmental Relations will be meeting again in early November and the Council in mid-November to finalize the SDSMA program for the 1995 session. To date SDSMA sponsored legislation includes:
 - a. Patient Freedom of Choice Act. (any willing provider)

- b. Eliminate U.S. citizenship requirement in the Medical Practice Act.

- c. Amend the Physical Therapy Act to increase the fee for licensure by exam to not more than \$300.

- d. Legislation protecting physicians who maintain lists of patients seeking analgesic medications inappropriately.

Endorsed legislation includes:

- a. \$350,000 cap on awards for non-economic damages.

- b. Amendment to the Podiatry Act bringing it up to date.

5. **HONORARY LIFE MEMBERS**—The following were elected to honorary life membership in the SDSMA:

Raymond Cornford, MD - Rapid City

Verlin Volin, MD - Sioux Falls

Sandro Visani, MD - Mitchell

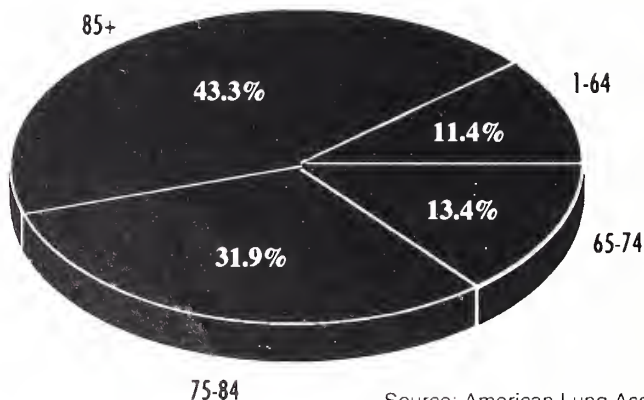
6. **PHYSICIAN NOMINATIONS**—Dr James Engelbrecht was nominated for consideration of a position on the HCFA Practicing Physicians Advisory Council.

Dr Thomas Kraska was nominated for the C. B. Alford Award which is presented annually by the State Health Department.

The next meeting of the Council will be Friday, November 18, 1994, at the Ramkota Inn, Pierre, SD.

FLU TAKES ITS TOLL

In 1990, the last year for which statistics are available, the death toll from influenza and pneumonia in the U.S. reached 79,513. While the risk of dying from either condition is highest among the elderly, 9,021 Americans age 64 or younger succumbed to flu or pneumonia that year. The pie chart below shows the percentage of flu and pneumonia deaths among different age groups.



Source: American Lung Association

Any Willing Provider – What Does It Mean?

The House of Delegates of the SDSMA, in June, 1994, passed a resolution and the Commission on Legislature recently confirmed the position that "Any Willing Provider" legislation be sponsored by SDSMA. The positive aspect of the issue occurs when such legislation can be assumed to mean "Any Willing Physician" in the ongoing struggle with managed care plans to exclude providers, particularly specialists. With this interpretation, it allows any physician to provide services in a plan as long as the tenets of the plan are followed. This would solve problems of access which might occur in rural areas where there are few physicians and maintains patient choice of their doctors in all areas of the state. Although insurance companies may oppose the concept, it is the best of the possibilities. Promoting such legislation also tends to alleviate tensions produced at the June Medical Association meeting between medical staffs of two of the largest hospitals in the state.

However, as might be expected, there is not total agreement within the medical community that "Any

Willing Provider" legislation is desirable. A number of primary care physicians feel selection and/or exclusion of some specialists is desirable to maintain a competitive market.

The above may be how doctors view the problem, but do the public and legislators see "Any Willing Provider" in the same light? The dark side may be that such a concept may be seen as an invitation for non-physician paramedical groups to include nurses, physician assistants, chiropractors, optometrists, etc. to use "Any Willing Provider" as a method to expand their scope of practice. This might seem to be far fetched, but the legislative process can quickly be completely diverted from the original intended purpose regardless of the best intentions.

It will behoove us to follow this situation carefully and instruct our lobbyists in Pierre during the legislative session so that they may act in the best interests of physicians and their patients in a fluid situation.

John F. Barlow, MD
Editor

THE SOUTH DAKOTA JOURNAL OF MEDICINE

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INSTRUCTIONS FOR SUBMITTING MANUSCRIPTS

ORIGINAL MANUSCRIPTS: Material appearing in all publications of the Journal of Medicine should be typewritten, double-spaced and the original copy. An abstract of 100-200 words and a list of references should accompany each article. Footnotes should conform with the requirements for manuscripts, and each manuscript should include the name of the author(s), the location of the author and title of the article. The pages should be numbered consecutively. The used manuscript is not returned but every effort will be made to return manuscripts not accepted or published by the Journal. Articles are accepted for publication on condition they are contributed solely to this Journal.

REFERENCES: Should be listed in the order in which they appear in the article and should not be more than 20. They should be complete and accurate and include the authors' names and initials, title of article, abbreviated name of Journal, volume number, pages and year of publication. References to books should include authors, title, location and name of publisher, year of publication, edition and page numbers.

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Managed Care Dilemma

Albin J. Janusz, MD, JD

ABSTRACT

The term, **MANAGED CARE**, is new to most physicians who were trained during the so called golden age of medicine. The various acronyms associated with this new era of medical care confuse even the young generation of physicians. This paper is written to identify the various players of managed care and to explain the differences between them. You can call this paper a glossary of the various HMOs that will be part of the new health care system.

HEALTH MAINTENANCE ORGANIZATION (HMO)

An HMO is the most common example of a managed care system. An HMO is a legal entity which combines the features of a health and a care provider. In return for a premium, an HMO contracts with an employer or other large consumer of health care services to provide those services to the consumer's beneficiaries at a specific location. Usually, no insurance coverage is afforded unless the beneficiary receives services from the HMO's providers. The HMO is usually found under one roof and will customarily provide general medical care and certain specialty services. Due to the insurance aspect of the HMO, it is considered to be a part of what is referred to as the "Health Care Financing" market as well as the "Health Care Provider" market.

There are five common types of HMOs in the current health market.

1. STAFF MODEL: The staff model HMO typically employs physicians directly and provides services at facilities owned by the HMO. This type of HMO accounts for about 12% of HMOs. Generally, the HMO will contract with hospitals for inpatient services, unless the HMO directly owns the hospital, and with other facilities to provide any non-physician services which the HMO cannot offer. The staff model HMO may also separately contract with physician specialists in order to provide a full spectrum of medical care services at pre-established prices to the beneficiaries.

2. GROUP MODEL: The group model HMO contracts with a single multispecialty group prac-

tice in order to provide both primary and specialty care services to its beneficiaries. The physician group controls its own selection process and would thus be considered a "closed" panel of providers. This type of HMO accounts for about 28% of the total HMO enrollment. There are various types of group model HMO contracts. For example, the HMO may contract on an all-inclusive capitation basis with the group, or it may contract on a cost basis. The physician group may exist solely to provide services to a single HMO (captive group), or it may be a completely independent group, maintaining its own practice separate from the services provided to the HMO. The physical plant in which the services are provided may be owned by the HMO.

3. DIRECT CONTRACT MODEL: This type of HMO model is similar to the IPA model described below, except that the HMO contracts directly with the individual physicians and physician groups rather than with an intermediary (the IPA). A broad spectrum of physicians are usually included in this program. Just as with an IPA, the direct contract HMO will generally require that each enrollee designate a primary care physician from a list prepared by the HMO to serve as a gatekeeper by coordinating the patient's medical care and controlling all referrals to specialists. The HMO may compensate the primary care physician on either a fee for service basis or primary care capitation basis. Specialists are usually compensated at a rate higher than that of the primary care physician.

4. INDIVIDUAL PRACTICE MODEL (IPA): In this type of managed care arrangement, the HMO contracts with either individual physicians or one

or more groups of physicians, all of whom are participants in a separate legal entity, the IPA. The physician members of the IPA provide medical care in their offices to beneficiaries and may maintain their private practice separate from the patients through their contract with the IPA.

IPAs often include various specialties, in addition to general primary care, as a means of offering a full range of services to the HMO. An IPA may contract with more than one HMO or an HMO may create an IPA and recruit physicians to participate in it on an exclusive basis. HMOs usually pay their IPAs on an all-inclusive physician capitation basis. However, the HMO may instead pay the IPA a set percentage of premium fee. HMOs particularly like the latter arrangement because a fixed fee means that the IPA, not the HMO, would bear the risk of over-utilization and inefficient provision of services.

With regard to the IPA's compensation of its physicians groups, it is customary for payment to consist of a capitated payment to its primary care physicians, and to consist of a fee schedule form of payment to its specialists. One distinctive feature of IPAs is the common practice of withholding a portion of both the capitation or the fee for service payment from the physicians to form a fund. The fund, commonly referred to as a "risk withhold", is used to offset losses or to encourage risk sharing and incentive programs. The fund is tapped at the end of a given period to pay physicians only if a certain level of expenses is not exceeded.

Membership in the IPA by a physician means that he offers his services to the HMO's enrollees, and the physician is generally not precluded from accepting affiliation with other care financing organizations. In fact, IPAs may encounter antitrust difficulties if they try to prevent their member physicians from participating directly with a separate HMO, rather than through the IPA, as discussed later. IPAs are generally not subject to state regulation because they are separate corporate entities which do not practice medicine or provide insurance coverage. IPAs account for about 42% of the total HMO enrollment.

The difference between an IPA and the group model HMO is that IPAs are usually open to participation by any physicians who meet the credentials criteria set by the IPA. In contrast, a group model HMO contracts with a single physician group, which in turn controls its own physician selection. Therefore, a qualified physician is theoretically more likely to be excluded from a group model HMO than from an IPA.

5. NETWORK MODEL: This is a system whereby the HMO contracts with a combination of medical groups, IPAs and other health care providers to provide care to the HMO's members. The network can be either open or closed. The HMO usually compensates these groups on an all inclusive physician capitation basis. The groups

would be financially responsible for reimbursing any specialist for referrals made to them. This model accounts for approximately 17% of the HMO enrollment.

PREFERRED PROVIDER ORGANIZATIONS (PPO)

A PPO is a type of health care plan developed by either a group of providers or by an insurance company whereby physicians and physician groups contract the insurance carrier or employee health benefit plan to provide health care services to insureds at an agreed upon rate. The insureds are permitted to use health care providers who are not on the PPO panel, but if they do, the insureds must pay any difference between the scheduled rate and the rate charged by the non-participating health care provider. This arrangement provides more flexibility and choices to insureds than does an HMO because the insured can still choose to receive care from a non-panel provider without sacrificing all insurance coverage. Separate contracts are made for services not provided directly by the various physicians, such as hospital and diagnostic care. Although PPOs do not assume risk in terms of medical management and profit issues, the purchaser benefits from the typically significant savings produced by negotiated provider discounts, selective contracting, utilization management, and even fixed per capita pricing in a capitated PPO arrangement.

INDEPENDENT PHYSICIAN PRACTITIONER ORGANIZATION (IPO)

Unlike an IPA, which contracts with providers for medical care and may or may not collect data, an IPO is an organization of independent practitioners formed for the sole purpose of gathering information, evaluating it and negotiating on behalf of each practitioner or group regarding participation in HMOs and other managed care organizations. IPOs may also establish reimbursement rates for services rendered by its participating physicians. If it does so, however, the IPO must take care not to disclose the rates of one physician or physician group to the others. Such disclosure could result in allegations of price fixing and anti-trust violations.

HOSPITAL PHYSICIAN ORGANIZATION (HPO) AND COMBINED PROVIDER ORGANIZATIONS (CPO)

A hospital physician organization, or combined provider organization, is a super group of hospitals and providers which contracts with a managed care plan and agrees to provide a defined group of benefits in exchange for a scheduled payment. The HPO or CPO will then reimburse its providers. The HPO or CPO is paid based upon a percentage or capitation.

POINT OF SERVICE OPEN ENDED PLAN

Point of service plans are prepaid plans, usually with a gatekeeper, whereby the patient elects as the service

is rendered whether to receive the service from a contract provider or from a non-contract provider. If the patient selects a contracting provider, as recommended by the gatekeeper, additional benefits are provided. This type of "open ended" HMO plan provides the comprehensive benefits of an HMO, but allows the patient to choose whether to seek treatment from physicians within the HMO system. Non-contract provider use is often underwritten by an indemnity carrier. Point of service plans are distinguished from PPOs in that PPOs do not customarily employ the gatekeeper approach to encourage enrollees to stay within the system.

CAPITATED PPOs, PRIMARY CARE PPOs AND "SWING OUT" HMOs

These are acronyms for relatively new, widely varying models of managed care. Generally, there is a primary care physician who acts as a gatekeeper but is reimbursed through capitation with a certain amount withheld. Unlike an HMO, the patient is permitted some coverage for services rendered by non-authorized or non-participating providers.

EXCLUSIVE PROVIDER ORGANIZATION (EPO)

Self insured employers who have recognized the advantages of ERISA preemption have formed limited panel PPOs called "Exclusive Provider Organizations (EPOs). In an EPO, an insurer or employer contracts with a selected number of health care providers from whom the insured must receive all health care services in order to be reimbursed. A gatekeeper approach for non-primary care referrals may also be employed. An EPO differs from a PPO in that EPOs require exclusive use of the EPO's providers in order for the patient to receive coverage indemnification. An EPO which uses a primary care gatekeeper program is similar to an HMO, but most HMOs are regulated under HMO laws and regulations, whereas EPOs are regulated under insurance laws and regulations. EPOs are frequently used by large employers who are highly concerned with cost savings, but not very concerned with offering a choice of providers.

MANAGED SERVICE ORGANIZATION (MSO)

MSOs are organizations, generally formed by hospitals, to manage and operate physician practices. Although the physician practices remain separate, the MSO often purchases equipment, hires staff, leases space, performs billing and collections, purchases insurance and supplies, and in other respects directly takes over the business aspect of the practice.

ADMINISTRATIVE SERVICES ONLY (ASO)

Many employees have elected to self insure the risk of health care costs. ERISA preempts state law regulation of self insured employers, thereby enabling the self

insured plans to operate free of state insurance regulation. Self insured plans often retain insurance companies or HMOs, under an ASO contract, to process claims and administer benefits on behalf of the plan.

AUTHOR

Albin J. Janusz, MD, JD, a surgeon in Aberdeen, SD; Clinical Associate Professor of Surgery, USD School of Medicine; Adjunct Professor of Law, LaSalle University.

REFERENCE

Adapted from a publication of the American Bar Association, Section of Tort and Insurance Practice and the Division for Professional Education in cooperation with: The American College of Legal Medicine: Liability Issues for Health Care Providers in a Changing Environment.

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This letter is in response to Dr James R. Reynolds' President's Page article on Prevention in the October issue of the Journal.

On the Importance of Prevention

The first inventory of DHHS health promotion and disease prevention programs was published in 1978 as an appendix to *Disease Prevention and Health Promotion: Federal Programs and Prospects*.¹ To reduce preventable death, disease and disability by the year 2000, the U.S. Public Health Service, working with a consortium of over 300 national organizations and all 50 state departments of health, has developed a broad-based plan to improve the health of all Americans. The cornerstone of this initiative is *Healthy People 2000: The National Health Promotion and Disease Prevention Objectives*, which charts a 10-year course for individual, collective and environmental change.

Healthy People 2000 sets broad public health goals for the decade. The three principal goals for the 1990s are to:

- increase the span of healthy life of Americans;
- reduce health disparities among Americans;
- achieve access to preventive services for all Americans.

To help meet these goals, 298 specific objectives are identified in 22 separate priority areas, such as physical fitness, alcohol and other drugs, unintentional injuries, mental health and mental disorders and educational and community-based programs. Within each priority area, quantifiable targets have been set for improvements in health status, risk reduction and service delivery. Special population targets have been set for those groups that experience higher rates of morbidity, disability and mortality than the general population.²

We have learned that a fuller measure of health, a better quality of life, is within our personal grasp. If tobacco use in this country stopped entirely today, an estimated 390,000 fewer Americans would die before their time each year. If all Americans reduced their consumption of foods high in fat to well below current levels and engaged in physical activity no more strenuous than sustained walking for 30 minutes a day, additional results of a similar magnitude could be expected. If alcohol were never carelessly used in our society, about 100,000 fewer people would die from unnecessary illness and injury. Together, deaths from these causes comprise a sizable share of the 2.1 million deaths that occur annually and are examples of the impact of personal lifestyle choices on the health destiny of individual Americans and the future of the nation.³

Former Secretary of Health, Louis W. Sullivan, MD said,

"Medical care, alone, will not eliminate the devastating impact of chronic disease on the disadvantaged, nor will it reduce, as much as we would like, the rate of infant mortality or the burden of homicide and violence or any of the other "health" problems that are borne by the poor in our society. If we are to extend the benefits of good health to all our people, it is crucial that we build in our most vulnerable populations what I have called a "culture of character", which is to say a culture, or a way of thinking and being, that actively promote responsible behavior and the adoption of lifestyles that are maximally conducive to good health. This is "prevention" in the broadest sense. It is also an absolute necessity, both because we are a humane and caring society and because, if we are to remain a vital society, we cannot afford to waste human resources. Good health must be an equal opportunity, available to all Americans.

We would be terribly remiss if we did not seize the opportunity presented by health promotion and disease prevention to dramatically cut health-care costs, to prevent the premature onset of disease and disability, and to help all Americans achieve healthier, more productive lives."⁴

National preventive efforts preceded the debate on health system reform and is about more than costs — it's about lives and the quality of those lives in our society.

REFERENCES

1. Prevention '91/'92, Federal Programs and Progress. Healthy People 2000, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, ODPHP National Information Center, PO Box 1133, Washington, DC 20013-1133.
2. Healthy Youth 2000. Excerpts from Healthy People 2000, National Health Promotion and Disease Prevention Objectives. Produced and circulated by the AMA, 515 N State St, Chicago, IL 60610.
3. Healthy People 2000. National Health Promotion and Disease Prevention Objectives, DHHS Publication No. (PHS) 91-50213.
4. Healthy People 2000. National Health Promotion and Disease Objectives, DHHS Publication No. (PHS) 91-50212.

Loren H. Amundson, MD
Professor, USD School of Medicine

Correction

We printed a poem, in the October 1994 issue, entitled, "Reflections in the Garden", by Jerry L. Walton, MD. Dr Walton's name was spelled Walter instead of Walton. We apologize for this error and have reprinted the poem below.

Reflections in the Garden
Strange personage, day on night pass by
I turn to the profoundly new entreat.
Slapped and stung I falter back
To gaze on the beauty of the unaltered stance.

Attempt again, the move toward
The slap, the sting, the beauty yet revealed.
The paradox throttles my speed
But I want, oh yes indeed, I want!

Strange beauty in a haze
Finally a smile, an expression is made.
No, there is no paradox
The slap becomes the beauty of it all.

Jerry L. Walton, MD
Sioux Falls, SD

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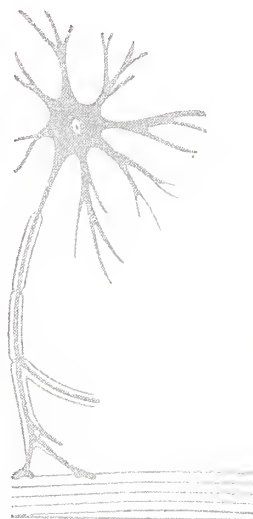
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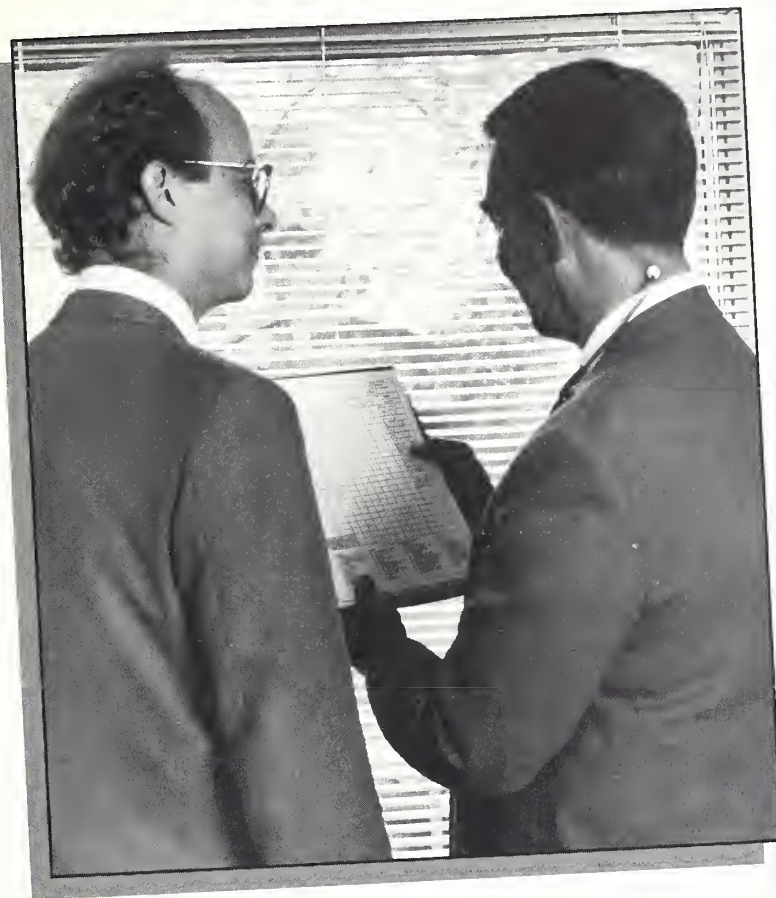
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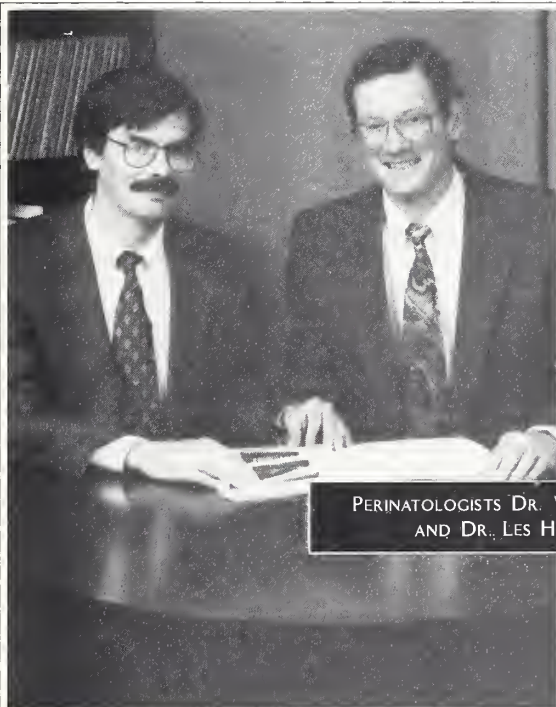
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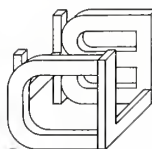
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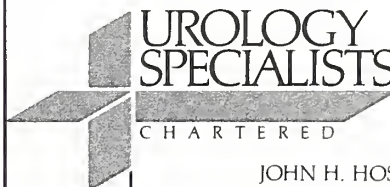
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Molecular Medicine: A Primer For Clinicians-Part VI: Introduction to Genetic Testing

Department of Biochemistry and Molecular Biology. Edited by Ronald Lindahl, Ph.D and Virginia P. Johnson, MD

ABSTRACT

Application of the tools of molecular biology to clinical medicine is most apparent than in the development of DNA-based diagnostic and predictive tests. Such tests allow direct examination of the DNA of individuals for the presence or absence of the causative or predisposing molecular defect for a disease or condition. In this and the next two papers, in our series, we will discuss various aspects of genetic testing. We will consider the different types of testing, their current and potential clinical applications and discuss some of the major ethical and legal issues that genetic testing poses.

INTRODUCTION

Imagine being able to order a battery of tests that will allow you to tell a patient exactly what major diseases they, and their children, will or will not develop. Imagine being able to test an *in vitro* fertilized, 8-celled embryo for cystic fibrosis (CF) or Tay-Sachs disease to assure that only healthy embryos are implanted. The latter is reality today. The former is still some time in the future, but very likely will also become reality. Both are feasible because of the rapid development of DNA testing made possible by modern molecular biology. In this paper in our series on molecular medicine we will discuss various aspects of genetic testing. We will consider the different types of testing, their current and potential clinical applications. In the next paper, we will discuss some of the major ethical and legal issues that genetic testing poses.

Genetic testing in the daily practice of medicine is not new. Every newborn has been tested for PKU since the 1960s. Certain ethnic groups are routinely screened for Tay-Sachs disease or various hemoglobinopathies. Prenatal diagnosis for diseases that result from changes in chromosome number or structure, such as Down's Syndrome, are also routinely available.

Why then is there such an increased interest in genetic testing, especially in the popular press? The techniques of recombinant DNA technology we have discussed in earlier papers in this series¹⁻⁵ have provided researchers with an unprecedented ability to identify and characterize human genes. The genes of

most interest are those associated with major genetic diseases (CF, muscular dystrophy) or common multifactorial conditions (cancer, hypertension). As the genetic basis of each disease is characterized, the possibility for directly examining the DNA of any individual for the presence or absence of the causative or predisposing molecular defect becomes a reality. Thus, with each new gene discovered, a potential DNA-based test for the disease associated with it is also discovered. Since the pace of gene discovery is now literally weekly, so is the pace of new genetic testing possibilities.

GENETIC TESTING DEFINED

As already noted, genetic testing is not new. What is new is the level at which such testing can be done. The genetic tests currently in widespread use rely on either the direct detection of the mutated form of the gene product of interest (hemoglobinopathies), on detecting abnormally high or low amounts of a gene product directly (familial hypercholesterolemia), or on detecting abnormally high or low levels of the metabolites involved in the reaction of interest (PKU). The new generation of genetic tests examine the DNA directly. Tests at the DNA level do not rely on expression of the gene product. Rather, they directly examine the genetic material itself for the presence or absence of mutations of interest. Moreover, DNA-based testing can be performed on any cells from which DNA can be obtained. The test can be done on minute amounts of material, such as a single cheek or skin cell. Finally,

DNA-based testing can be done at anytime that material can be obtained, from conception to adulthood.

There are two reasons for conducting a DNA-based test: genetic testing and genetic screening.^{6,7} For certain aspects of our discussion these distinctions will be useful. Genetic testing, sometimes also called family-centered testing, refers to the application of a gene-based test to an individual or family in which there is a previous history of the condition of interest. Such individuals have been determined previously to be at-risk. Genetic screening is a population-based testing program in which large numbers of asymptomatic, usually family history-negative, individuals are examined. Genetic screening will initially establish risk. Unless confusion could result, we will use genetic testing to refer to both types of analyses.

Genetic testing is by its very nature predictive. Such testing can be used to establish: 1. the risk of the condition of interest developing in the individual being tested; 2. whether an individual is a carrier of the condition-causing allele(s) which would place future offspring at risk.⁶ These have been the goals of family-centered genetic testing since its inception. Particularly when applied to genetic screening, these objectives take on other meanings, some of which form the basis for much of the ethical and legal concerns genetic testing has raised. Four reasons are usually cited for conducting population-based genetic screening: 1. presymptomatic detection of conditions for which there is effective prevention or treatment; 2. reproductive counseling, especially for conditions in which no effective treatment exists; 3. research into the etiology or prevalence of the condition; and 4. inclusion or exclusion of individuals, particularly for insurance or employment purposes.⁷ It is the use of gene-based population screening for reproductive counseling and inclusion/exclusion scenarios that raise the biggest ethical concerns.

GENETIC TESTING METHODS

The development of a successful genetic test depends on several factors. First and foremost is the identification of the disease-causing gene and the characterization of the gene defect. Second is applying that information to the development of a testing protocol that is specific, sensitive, easy to conduct and hopefully relatively inexpensive. Third is the development of pre- and post-testing patient counseling techniques for use by health care providers qualified in genetic counseling. Fourth is informing health care providers, including practicing physicians, about what the test actually assesses and how the results should be interpreted.

Practically, a genetic test requires three items: 1. a source of DNA for testing; 2. a molecular probe that will specifically identify the allele(s) of interest; and 3. the appropriate analytical method for detecting the condition-associated alleles. Readers are referred to the earlier papers in the series to refresh their memory regarding these items.¹⁻³ The DNA source can be any nucleated cell. The most common source is lym-

phocytes from a blood sample, but it could be skin cells, cheek cells, hair follicles, a pathological specimen, or any body fluid from which cells can be recovered. Occasionally, the DNA source may be a cellular RNA from which complementary DNAs can be made. For some methods, such as fluorescent in situ hybridization,^{3,8} whole cell DNA can be probed without prior DNA isolation. However, for most methods total genomic DNA isolated from cells is employed.

The most critical item in a successful genetic test is the availability of a DNA probe molecule that will specifically identify the DNA sequences (alleles) of interest.² For most genetic tests, the probe will be a short DNA sequence that will hybridize specifically with the mutant form of the gene in question. Such probes are called allele-specific oligonucleotides. They are specific and sensitive enough to detect a single DNA base change (insertion, deletion or mismatch) in an entire gene of several thousand or hundred thousand base pairs or in the entire 3 billion base pair human genome. Such a probe is the basis of the genetic screening test for cystic fibrosis.⁴

The specificity and sensitivity of DNA probes are critical for a successful genetic test. These properties also make many genetic tests more complex than they would otherwise be. Again CF is an excellent example.⁴ Although one mutation, the F508 deletion, accounts for almost 70% of all cases of CF, over 400 other mutations have been described in the remaining 30% of patients. Even a DNA-based CF test that used probes capable of detecting the 6 most common mutations in CF would detect only 85% of CF cases. This would produce a false negative rate of 15%, a number completely unacceptable for any laboratory test. For a number of technical reasons, currently no more than a few probes^{2,3} can be used effectively in a single genetic test. Therefore, multiple test runs, each using a small number of probes, must be conducted if the condition of interest can be caused by different mutations within a single gene. The identical situation would apply to conditions in which mutations in more than one gene, such as cancer, are required for disease development. Since a disease due to multiple mutations within a single gene as well as multiple gene involvement in a single disease are rapidly becoming the rule rather than the exception in medicine, this problem will continue to limit the widespread application of DNA-based testing to genetic screening situations.

Once a suitable probe has been developed it can be used in any number of analytical methods. Most tests employ some combination of Southern analysis, Polymerase Chain Reaction (PCR), Restriction Fragment Length Polymorphism detection (RFLP analysis) and/or direct DNA sequencing.^{2,3} Most genetic testing protocols rely on PCR to selectively amplify the particular region of genomic DNA of interest. This is usually the portion of the gene in question which carries the mutation one is trying to detect. Recall that PCR requires that the DNA sequences on either side of the region of interest are known so that primers specific to those sequences can be used. (Fig 4, Ref 3) Thus,

starting from even the smallest amount of DNA (a single cell), the DNA region of interest can be amplified to obtain the amount needed for testing. The PCR-amplified DNA is electrophoresed. If the difference between the normal allele and the mutant allele is one of size, the presence or absence of the mutant allele(s) can be detected directly from the gel. However, most often the two alleles differ only in nucleotide sequence. In these situations, normal and mutant allele-specific oligonucleotides are used to probe a Southern blot of the PCR-amplified DNA. (Fig 2, Ref 3)

Consider the simplest possible situations. For a non-X-linked, recessive condition such as CF, hybridization with the normal, but not mutant probe indicates the individual is homozygous normal. Hybridization with the mutant, but not the normal probe indicates the individual is homozygous for the mutation and either has, or is at risk of developing, the condition. Hybridization with both probes indicates a carrier who will likely be normal but can pass the mutant allele to their offspring. For genes that act as genetic dominants, such as oncogenes, the only individuals not at risk for developing the condition are those who are homozygous normal. Heterozygous and homozygous mutants are both either affected or at risk. The number and type of mutant alleles may either determine the severity of the condition and/or age of onset.

The other major technique used in DNA testing is RFLP analysis. (Fig 3, Ref 3) RFLP analysis can be somewhat more complex technically than the PCR-allele-specific probe technique described above. However, RFLP analysis can be performed on total genomic DNA in situations where DNA sequences in the area of interest are not known, meaning that PCR primers can not be made. RFLP analysis only requires the availability of a probe that spans all or part of the gene. Thus, RFLP analysis can be employed when it is not possible to construct allele-specific probes because the exact mutation or mutations involved are not known. Moreover, since RFLP analysis directly detects the presence or absence of restriction enzyme sites, the presence of some condition-associated mutations can be directly assessed because the mutation changes the DNA sequence to either create or destroy a restriction enzyme recognition site. No PCR or allele-specific probes are necessary. Finally, RFLP analysis can be used when the exact location of the gene in question is not yet known, but RFLPs in closely linked DNA segments have been demonstrated to associate preferentially with the condition in question. An excellent example is the breast-ovarian cancer susceptibility gene (BRCA-1) on chromosome 17.⁵ The gene has not been identified precisely, but RFLP analysis of high-risk families has been used in clinical settings to identify family members who either carry or are free of the disease-causing allele for this gene. Thus RFLP analysis can establish genotypes, and therefore risk, in situations where there is limited or no information available about the particular gene of interest.

For RFLP analysis either total genomic or PCR-amplified DNA is digested with one or more restriction enzymes and the resultant DNA fragments separated by electrophoresis. If PCR-amplified DNA is used as the source, it may be possible to detect the presence of the RFLP directly on the gel because only a small number of distinct DNA fragments are usually produced. However, more specificity is obtained if electrophoresed genomic or PCR-amplified DNA is subjected to Southern analysis using a suitable probe.

A third approach useful in genetic testing in certain situations is direct DNA sequencing. The obvious advantage of DNA sequencing is that the presence or absence of the condition-associated change in DNA sequence can be directly determined with certainty. (Fig 6, Ref 2) The major limitation is the same as that of a PCR-based method; DNA sequences flanking the area to be sequenced must be known in order that appropriate primers can be designed. An additional difficulty is that sequencing reactions work best with relatively pure, small DNA fragments. Thus, DNA sequencing is usually done on PCR-amplified DNA. Because of these limitations and the fact that sequencing is labor- and reagent-intensive, DNA sequencing is most often used to confirm the presence of a mutation detected by PCR or RFLP analysis.

As noted earlier, genetic testing can be performed on virtually any cell at any time. Until the recent explosion in our knowledge of the human genome, virtually all genetic testing was carried out on families with a previous history of the condition in question to provide guidance about whether future offspring would be affected. This testing involved both prenatal testing of an embryo or fetus and testing of siblings, parents and other close relatives and the goal was specific risk assessment. With the discovery of ever more genes and the development of new techniques, the timing of, and rationale for, performing genetic testing have both expanded.

In utero prenatal testing can be conducted on DNA from cells obtained by amniocentesis or chorionic villus sampling. Recently, *in vitro*, post-conception DNA testing of an 8-cell, *in vitro* fertilized embryo for Tay-Sachs disease was reported. A single blastomere of the embryo was removed, the DNA isolated and the appropriate test performed. The remaining blastomeres continued to develop and upon confirmation that the embryo was normal, it was implanted into the mother. A normal girl was born. Pre-conception DNA testing of human eggs has also been described.⁹

Like prenatal testing, postnatal DNA testing is also likely to expand beyond its traditional family-centered testing applications. The use of newborn, presymptomatic genetic screening for diseases such as CF, and childhood and adult genetic screening of asymptomatic individuals for late-onset diseases such as Huntington's Disease, some of the muscular dystrophies and certain hereditary forms of breast and colon cancer, either are a reality or will be soon. The

very difficult ethical and legal issues associated with the expansion of both pre- and postnatal genetic testing will be discussed in the next article in our series on molecular medicine.

AUTHORS

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REFERENCES

1. Lindahl R: Molecular Medicine: A primer for clinicians. Part I. Essential concepts of human gene expression. *SD J Med* 1993;46:115-120.
2. Lindahl R: Molecular Medicine: A primer for clinicians. Part II. Recombinant DNA molecules. *SD J Med* 1993;46:152-157.
3. Lindahl R: Molecular Medicine: A primer for clinicians. Part III. Molecular tools for analyzing human genes. *SD J Med* 1993;46:197-201.
4. Lindahl R: Molecular Medicine: A primer for clinicians. Part IV. Cystic Fibrosis and power and limitations of molecular medicine. *SD J Med* 1993;46:393-398.
5. Lindahl R: Molecular Medicine: A primer for clinicians. Part V. Cancer. *SD J Med* 1994;47:187-193.
6. Holtzman NA: The diffusion of new genetic tests for predicting disease. *FASEB J* 1992;6:2806-2812.
7. Fost N: Ethical implications of screening asymptomatic individuals. *FASEB J* 1992;6:2813-2817.
8. Johnson VP, Altherr, MR, Blake JM, Keppen LD: FISH detection of Wolf-Hirschorn Syndrome: Exclusion of D4F26 as critical site. *Am J Med Genet* 1994;52:70-74.
9. Verlinsky Y, Rechitsky S, Cieslak J, et al: Reliability of pre-conception and preimplantation genetic diagnosis. *Proc 8th Int Cong Hum Genet* 1991;49:22.

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Cancer Pain Management

Debra Farver, Pharm.D, Yankton, SD

Barriers to cancer pain management have inhibited patients from receiving the most effective therapy for this common problem. Patients may have misconceptions about the use of medications to control the pain. Often statements concerning addiction to narcotics and not wanting to use narcotics too early in the disease because they won't work later will lead to inappropriate pain management. These barriers can be avoided with patient and family education about pain and the best treatment plan.

In the past, health care professionals have not always given pain management a very high priority. The Clinical Practice Guidelines for Management of Cancer Pain were published by the U.S. Department of Health and Human Services to establish the importance of this topic. These excellent guidelines will help the health care professional and patient overcome their concerns about pain management.

The type of cancer and its stage along with previous treatments such as surgery, radiation and chemotherapy are important in pain management. The history may reveal some direct antitumor measures that are needed. Assessment of cancer pain should include a detailed history of the location, intensity and character of the pain. Asking about the pain regularly is a way to directly involve the patient and family in the treatment plan. From their information, the appropriate pain control option can be determined. Interventions should be timely, logical, and coordinated with the patient. Other parameters in assessment should include psychosocial, physical, neurologic and diagnostic evaluations.

The World Health Organization (WHO) developed a ladder for effective drug treatment of cancer pain. The three step ladder is to provide an effective and logical approach but also allows for individualization of pain management. The first step is with the use of non-steroidal anti-inflammatory drugs (NSAID), acetaminophen or aspirin. For mild to moderate pain, these agents have established efficacy and are easily administered by the patient. A ceiling effect to analgesia can occur with this group of medications as the pain progresses. Adverse effects of gastritis, renal toxicity and thrombocytopenia may limit the use of aspirin and NSAID. High dose, long term acetaminophen may result in hepatic dysfunction.

If the pain persists or increases, an opioid is added to the existing NSAID, acetaminophen or aspirin with step two of the pain control ladder. Additive analgesia will occur. Common opioids used in combination are codeine, hydrocodone, and oxycodone. The limiting

factor of this group is the combined adverse effect profile and the dose limiting usefulness of NSAID, acetaminophen, and aspirin.

The final step of the WHO ladder is the use of opioid agonists such as morphine, hydromorphone, methadone, fentanyl and levorphanol. Traditionally, this group of narcotics is used for severe pain or persistent pain that has not responded. Titration of doses to control the pain will not be limited by the ceiling effect. Psychological dependence or addiction is often confused with opioid tolerance and physical dependence. Opioid tolerance is defined as the need to increase the narcotic dose over time to maintain pain relief. Disease progression is commonly correlated incorrectly as opioid tolerance. Physical dependence can be expected with long term opioid treatment. Use of a mixed agonist-antagonist is avoided because these drugs may precipitate the withdrawal syndrome. Psychological dependence is rare when treating patients with pain associated to the cancer. Numerous routes of administration of the opioid allow flexibility in dosing based on the patient's current status. Available routes of administration besides oral are transdermal (fentanyl), intravenous, subcutaneous, intraspinal, intraventricular and patient-controlled analgesia (PCA). Anticipation of common adverse effects such as constipation, nausea and vomiting and sedation are important with opioids.

In all three steps of cancer pain management, adjuvant medications should be evaluated for usefulness. Neuropathic pain may be managed adjuvantly with antidepressants, anticonvulsants or local anesthetics. Corticosteroids have anti-inflammatory properties as well as antiemetic activity and appetite stimulation and may also be useful.

Whatever type of analgesic is selected, scheduled doses on a regular basis are recommended. This will help to maintain consistent drug levels to prevent recurrence of the pain. Additional as needed (PRN) doses of an analgesic should be readily available for patient use. A criteria for the "as needed" analgesic is that its onset of action should be rapid to provide acute relief of the pain. Dose titration can be determined from the number of as needed doses the patient received over a 24 hour period. When needed, conversion between opioids is easily done with approximate equianalgesic doses that are listed in numerous reference textbooks.

The practitioner should also recognize aspects of pain management that are not recommended from this report. Meperidine is only useful for acute pain for a short period of time. Its active metabolite, nor-

meperidine, accumulates with repeated administration and renal insufficiency. Central nervous stimulation can manifest as dysphoria, agitation, tremor or seizures. Another consideration is that antianxiety and sedative/hypnotic agents do not demonstrate analgesic properties alone. If they are to be utilized with analgesics, they may limit opioid dosing due to oversedation.

In conclusion, every health care professional should become familiar with the new clinical practice guidelines on cancer pain management. The appropriate use of analgesics will help to eliminate the pain a patient exhibits and greatly improve quality of life.

REFERENCE

Clinical Practice Guideline: Management of Cancer Pain. U.S. Department of Health and Human Services. AHCPR Publication No. 94-0592, March 1994.



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From a Legal Perspective

Patient Relations

Positive patient relations may be very important in preventing medical malpractice claims. Maintaining patient confidentiality, respect and comfort are important factors in patient-physician relationships. The following suggestions may help patients feel more comfortable about their treatment.

- Train office personnel regarding telephone etiquette, confidentiality and handling patient complaints.
- Never discuss patient information within hearing distance of other patients.
- Develop policies for the release of medical records or medical information.
- Provide privacy when asking patients personal questions during registration, examination and when scheduling future appointments.
- Provide a female attendant in the room whenever female patients are examined by a male physician and a male attendant whenever male patients are examined by a female physician, when necessary.
- Have appropriate examination attire available for patients to provide warmth and privacy.
- Provide appropriate robes for patients to wear when walking from one room to another.
- Obtain informed consent from patients.
- Involve patients in decision-making and care.
- Help patients take control of their health care.
- Give patient results of biopsies or other diagnostic test results prior to a weekend or holiday, when possible.
- Return and document patients' telephone calls as promptly as possible.
- Provide weekend and vacation coverage with physicians who have similar skills.

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Helen Owens, President, South Dakota
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*"Walk a mile in my shoes, walk a mile in my shoes.
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Joe South, 1970

Those words, written by Joe South in 1970, had a ring of truth to them then and they still do. In a nutshell, those words also sum up effectively the purpose of the mini-internship programs sponsored by many medical societies and alliances across the country. Mini-internship programs allow legislators, civic leaders, business people and media representatives to walk a mile in *your* shoes.

Mini-internship programs sensitize the participants to the realities of health care by placing a non-medical person with a physician for part of a day. The "intern" accompanies the physician on rounds, observes while the physician treats patients, talks to families, performs surgery, and manages the business side of medicine. According to Dr Lisa Arbisser of Davenport, Iowa, mini-internships provide a medium where decision makers can place a world value on medicine, rather than view it solely as a budget line item.

This program could bring significant benefits to your medical practice and to all the physicians of South Dakota. The interns take with them a very personal experience that can touch many decisions they make.

The experience can change the perceptions of policy makers and opinion makers who are making decisions that directly effect the practice of medicine in South Dakota. It can focus attention on the extremely complex task medicine is and the importance of the doctor-patient relationship. As one of the founders of the mini-internship program, Collette Wright, said, "Medicine is not just number crunching and benefit packages. The art of medicine is equally as strong as the science."

I encourage you to work with your local medical alliance in establishing a mini-internship program in your community. Dean Krogman of the South Dakota State Medical Association office and each district alliance president has a workbook that can lead you through each step of the process. State Alliance legislative co-chairmen Ruth Parry and Darlene Buhler are also well informed on this program. Please contact us for more information. This is a program that could make a real difference!

Helen Owens

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Extenuating Circumstances

A periodic column for personal, ethical, and socioeconomic reflections on medicine.

The American Medical Association, The Young Physicians Section, and You

Robert Wah, MD, Chairman, American Medical Association Young Physicians Section

The Seventh District Medical Society has submitted to the Journal a summary of the remarks made by Dr Robert Wah, AMA Young Physicians Section Chairman. He addressed the group on April 5, 1994, in Sioux Falls and also delivered his remarks in Rapid City on April 6, 1994, to the Ninth District Medical Society. It is the feeling of the Society that the enclosed summary captures the essence of Dr Wah's comments and should be of interest and value to many members of the State Medical Association.

Karla K. Murphy, MD, Vice-President
Seventh District Medical Society

I would like to talk about the importance of getting and staying involved in organized medicine because I think now, more than ever, we need physicians to get involved in the process of organized medicine and become involved with this process we call Health System Reform.

The highlight of the year certainly was when the pay disparity for young physicians was finally abolished in the Medicare reimbursement laws. The Young Physicians Section went through the American Medical Association (AMA). After a lengthy process the new physician pay disparity was removed. That was a major victory. It's a prime example of what the AMA can do that no other organization can do. No other organization, no specialty organization or state organization could have taken on that issue except the AMA because no one else had credibility in Congress or the power to get things done at the national level except for the AMA.

Another major highlight for the young physicians over the last year was that our assembly voted to seek a seat on the Board of Trustees. The national organization is run by the Board of Trustees and we felt it was important to have a young physician at the highest level in the AMA because we feel that it's at that level that very crucial decisions are being made. Many of the people that are Board of Trustee members are not young physicians. Many of the things that they are making decisions about will not affect them in the long run because they are not going to be practicing that much longer. I think the things that are being decided today are going to affect the young physicians the very longest and so we felt that it was vitally important that we have a seat on the Board of Trustees to give the input of the physicians that are out there in the early years of their practice.

Another project of the Young Physicians Section is a book called *Contracts: What You Need to Know*. This

booklet was compiled with input from state medical societies, special organizations, individual young physicians and young physician organizations. A copy is available through the AMA office in Chicago.

Another project that the Young Physicians Section has put together is a booklet called *How Medical Democracy Determines Policy: A Primer*. This booklet outlines how various organizations in medicine are put together, where people fit in these organizations, where an individual has input and how an individual can take their concerns or interests all the way up through the organization and make a policy. So this is a very helpful booklet for young physicians getting involved for the first time to understand where they are and how they can make the best impact in their organization.

Young physicians have also been involved in the development of practice parameters. We want to make sure that these are developed properly because it's our future that we are looking at in terms of having to use them for the longest period of time.

The last thing I want to talk about is the importance of organized medicine. These are clearly exciting times with a lot of change about to occur and already occurring in many, many places, not just the federal level in terms of health system reform but at the local level in terms of managed competition and managed care plans. I think that it's vitally important that we get the input of as many physicians as possible because we need to bind together to stand up against some of the things that are happening. Organized medicine, in my mind, is the only way we can bring all those voices together. By getting organized and sharing with each other some of the pitfalls and some of the successes that we've all had in the various aspects, I think we can only help ourselves as well as our patients. I think that organized medicine, the AMA and the state medical associations are the only way in which we can do that. In my state I see people making the decision to join networks that are going to cost them thousands and thousands of dollars and yet they are reluctant to join the AMA which is going to cost them a few hundred dollars. I think it's a small basic investment that you need to make in your future because we're talking about your future here. For all of us that are going to be practicing medicine in the next 20 years, what we're talking about today is going to have a profound influence on that future. And so I would implore all of you to try to get involved at whatever level your comfortable with but certainly join the organizations and support them and get the materials that we send out and read them over

and be a participant at any level. Regarding the Young Physicians Section of the AMA, please contact:

American Medical Association
515 North State Street
Chicago, IL 60610-9986 or

Young Physicians Caucus
South Dakota State Medical Association
% Dean Krogman
1323 South Minnesota Avenue
Sioux Falls, SD 57105 or
your local district medical society.

To Dad, A Day After Your Death

I will not lose you.

You are in me:

In a thousand/million

DNA spirals...

You are around me:

In the wind across Poinsett

Empowering the sail...

Your listening,

Your being,

Your spirit

Is with me.

You surround me

Without fail.

I will not lose you.

Richard P. Holm, MD, Brookings, SD

New SDSMA Members

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705 Columbus
Rapid City, SD

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PO Box 6000
Rapid City, SD

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C. Thomas Gaeckle, MD
North Central Heart Institute
PO Box 5054
Sioux Falls, SD

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1201 S Euclid Ave, #204
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OBG

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Sioux Falls, SD

FP

Lial Kofoed, MD
VAMC, Dept of Psy
PO Box 5046
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P

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903 N Washington Ave
Madison, SD

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1400 W 22nd St, #241
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IM

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PO Box 1361
Mitchell, SD

AN

Christiane Maroun, MD
2200 N Kimball, #400
Mitchell, SD

PD

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Family Care Center
1440 15th Ave, NW
Aberdeen, SD

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 credit available unless otherwise specified)

CME CONFERENCES

NOVEMBER 1994

- November 15 PALS Renewal Course - - McKennan Hospital, Info: 339-8096
- November 15 Endorama (Endocrinology Conference) - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- November 16 CPC Wednesday Noon Conference - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced, Info: David Rossing, MD 331-3490.
- November 16 Trauma Conference - - McKennan Hospital, Info: 339-8096
- November 16 Geriatric Forum - 7:30 am, East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- November 16 Clinical Pathology Conference, - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Marc Aldrich, MD, topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- November 17 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- November 17 Neuroscience Grand Rounds - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- November 17 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- November 17 Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- November 17 Cath Conference - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- November 18 Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- November 18 Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- November 23 Internal Medicine Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Eugene O. Hoxtell MD, Topic: Contact Dermatitis, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- November 23 Geriatrics Grand Rounds - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- November 24 Trauma Grand Rounds - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- November 24 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- November 24 Pediatric Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- November 24 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- November 25 Tumor Conference - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- November 28 Tumor Board - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- November 30 Internal Medicine Grand Rounds - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: M. Thomas Stillman, MD, Topic: NSAIDS and the Aging Kidney, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).

DECEMBER 1994

- December 1 Tumor Conference, Dakota Midwest Cancer Institute - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 1 Biomedical Ethics - East Auditorium, Rapid City Regional Hospital, Info: Medical Staff Office - 341-8705.
- December 1 Cath Conference - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- December 1 Cancer Conference - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 1 West River Internal Medicine Grand Rounds - 2:00 pm, Hot Springs VA Hospital, Speaker: Dr. Alan Morris, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- December 1 Cancer Conference - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 1 Clinical Pathology Conference - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: to be announced, Topic: to be announced, Info: Dr's J. Ruggles & R. Thompson, 665-9002.
- December 2 West River Internal Medicine Grand Rounds - 11:00 am, Fort Meade VA Hospital, Speaker: Dr. Alan Morris, Topic: to be announced, Info: Dr. Donald Humphreys - 357-1340 (Kris Karbo).
- December 2 Psychiatry Grand Rounds - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- December 2 Morbidity/Mortality Conference - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- December 2 Physicians Continuing Education - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- December 6 ACLS Renewal Course - - McKennan Hospital, Info: 339-8096

- December 7 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: W. Allan Boade, MD, Topic: Cardiac Nuclear Medicine, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 7 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: James D. Brosseau, MD; Topic: The Pros and Cons of Tight Blood Sugar Control; Info: Connie Kleinsasser, USDSM - 357-1480.
- December 8 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- December 8 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 8 **Cardiac Cath Conference** - 7:30 a.m., McKennan Hospital Auditorium, Info: Cardiovascular Dept, 339-7677.
- December 8 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 8 **Internal Medicine, Tumor Conference** - 8:00 am, Sacred Heart Hospital, Doctor's Dining Room, Yankton; Speaker: To be announced, Topic: To be announced, Info: Dr. J. Ruggles & Dr. R. Thompson, 665-9002.
- December 8 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 9 **Physicians Continuing Education** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- December 9 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- December 12 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- December 13 **Breast Cancer Conference** - 12:00 noon, Meeting Room B, Sioux Valley Hospital, Info: Dr. Thomas Cink - 333-5244.
- December 14 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- December 14 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 15 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- December 15 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 15 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 15 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 15 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- December 16 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- December 20 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- December 21 **Clinical Pathology Conference**, - 7:30 am, Sioux Valley Hospital Auditorium, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 21 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, to be announced, to be announced, Info: David Rossing, MD 331-3490.
- December 22 **Geriatric Forum** - 7:30 am, East Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- December 22 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 22 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- December 22 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 22 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 22 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- December 23 **Tumor Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- December 23 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- December 26 **Tumor Board** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- December 28 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- December 28 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Don Kreger, MD, Topic: Infertility & Advanced Reproductive Techniques, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 29 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 29 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 29 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.

MISCELLANEOUS

DECEMBER 1994

- December 1 **Advanced Cardiac Life Support (ACLS) Renewal**, Univ of Neb Med Ctr Campus, Omaha, NE. Fee: \$110. 8 hrs AAFP & 7 hrs AMA Category 1 credit. Contact: Cindy Hanssen, Univ of Neb Med Ctr, Ctr for Cont Educ, 600 S 42nd St, Omaha, NE 68198-5651. Phone: 1 (800) 652-1095.

- December 2-3 **Infectious Diseases and International Health**, Marquette Hotel, Minneapolis, MN. Fee: \$125. 10.50 hrs AAFP & AMA Category 1 hrs. Contact: Ann Samways, CME Coord, HCMC/HFA Off of Academic Affairs, 701 Park Ave, Mail code 869A, Minneapolis, MN 55414-1829. Phone: 612-347-2078.
- December 7-9 **Fitting the Work to the Worker**, Thunderbird Hotel, Bloomington, MN. Fee: \$595. 20.5 hrs AMA Category 1 credit. Contact: Midwest Ctr for Occupational Health & Safety, Prog in Cont Educ, Univ of Minnesota, 640 Jackson St, St. Paul, MN 55101. Phone: 612-221-3992.
- December 8-10 **National Conference on Community Development**, Minneapolis Hilton and Towers, Minneapolis, MN. Fee: \$125. Contact: Robert Quick, Communications Dir, National Rural Health Assoc, One West Amour Blvd, Suite 301, Kansas City, MO 64111. Phone: 816-756-3140.
- December 10 **Evaluation and Management of Cardiovascular Disease in the Elderly**, The Ritz-Carlton Hotel, St. Louis, MO. Fee: \$50. 3.5 hrs AMA Category 1 credit. Contact: Continuing Medical Educ, Washington Univ School of Med, Campus Box 8063, 660 S Euclid Ave, St. Louis, MO 63110-1093. Phone: 800-325-9862.
- JANUARY 1995**
- January 12-13 **Geriatric Update in Clinical Practice**, Rushmore Plaza Holiday Inn, Rapid City, SD. Contact: Barb Wagley, Phone: 357-1340.
- January 20 **Vestibular and Balance System Assessment: Theory, Methodology and Treatment**, Boys Town National Research Hosp Auditorium, Omaha, NE. AMA credit hrs avail. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Suite #2130. Omaha, NE 68131. Phone: 800-548-2633.

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Geriatric Update In Clinical Practice

January 12-13, 1995

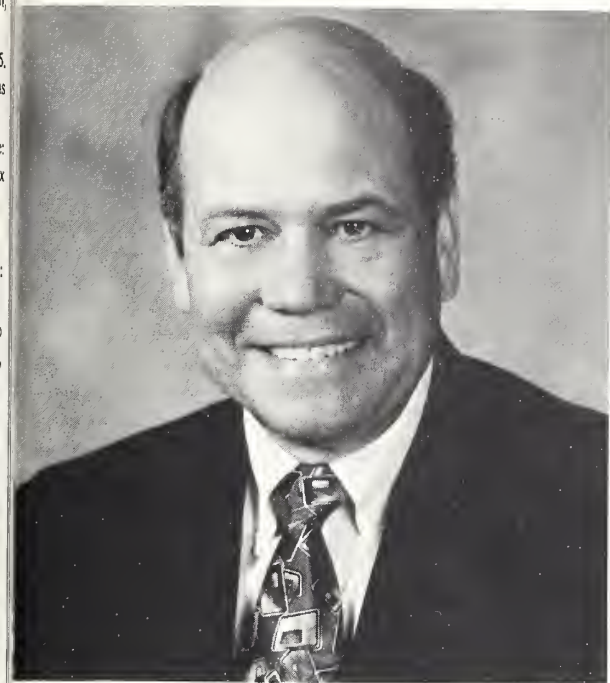
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USD School of Medicine
Phone: (605) 357-1340**

President's Page



**James R. Reynolds, MD, President
South Dakota State Medical Association**

In this month's journal, I have reviewed the current status of the "Any Willing Provider" concept. As health system reform passes from the federal agenda to the marketplace and the state level, South Dakota will seek its own solution.

The House of Delegates in June passed a resolution to proceed with the study of "Any Willing Provider" legislation. Clearly the free competitive marketplace advocates health care companies rights to choose selective providers. This position must be balanced by the patients' rights to choose their providers and receive appropriate medical care.

South Dakota is unique in its rural setting, with a population under 800,000 people. Excluding those patients covered by Medicare, federal programs and the Indian Health Service, approximately 400,000-450,000 patients are available for coverage. Sioux Falls is the only city with more than one hospital provider and enough non-institutional providers to allow for competitive selection. Any statewide health delivery system would in fact, out of necessity, need to include all providers, institutional and non-institutional, in order to provide ready access to health care for enrolled patients. Couple this with the known low cost health care delivery already available in South Dakota and the willingness of providers to lower health expenditures if quality is preserved, the question is then whether competition or cooperation provides the purchaser of health care services in South Dakota the best solution.

The "Any Willing Provider" concept is increasingly tied to an anti-competitive position. For this reason, support of the AMA Patient Protection Act, including an affordable non-punitive point of service option, I feel is the best option for South Dakota. This would preserve the competitive marketplace, insuring for our patients freedom of choice and the right to quality health care.

I realize as I write this month's President's Page that the holidays will soon be upon us. I wish to extend from our home to yours a most rewarding and happy holiday season!

James R. Reynolds

Since July 1st, I'm sure you all are aware that we have been required by law to post a sign asking patients to inquire about the price of medical services in an effort to promote competitive pricing.

An informal study was conducted in the past month asking the question: "What percentage of your patients have inquired about charges as a result of this new law?". The enclosed results of the study confirm the fact that the overwhelming response was less than 1% and several practices wrote nobody had ever inquired.

While I am not against the practice of encouraging patients to ask about medical pricing to promote com-

petition, I think that before further legislation is imposed upon medical practices statewide, perhaps, these "brilliant ideas" should be pilot tested in advance to see if there will be any effect of such legislation. Unfortunately, once such legislation is put into place, it is rarely reversed, even though we have shown in our small study in Rapid City that it has virtually no effect.

Sincerely,

Scott G. Eccarius, MD
Rapid City, SD

Q. "What percentage of your patients have inquired about charges as a result of this new law"? (requiring a sign to be posted encouraging patients to ask about charges).

A. >75% 50-75% 25-50% 10-25% <10% <1% Nobody

0 0 0 1 2 18 5

Number of local medical practices responding to questionnaire: (26/40)

UNSOLICITED COMMENTS:

"We have not had anyone come up to our window and ask regarding charges per this sign-we think it's just 'taking up space' on our wall."

"I picked up a poster at the SDSMA meeting in June and posted it that same day. I am told by our receptionists that not one patient has asked or inquired about charges."

"One patient inquired."

"Less than 1% and these have all been telephone inquiries."

"No one has inquired."

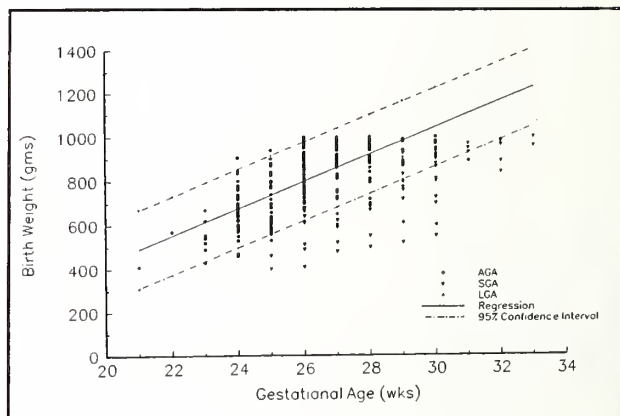
"No surprise!"

Intrauterine Growth of Tiny Neonates

We recently published the survival rate of tiny neonates cared for in the University of South Dakota/Sioux Valley Hospital Intensive Care Nursery for the years of 1981 through 1992.¹ A part of the investigation which was not included in the report was an analysis of the birth weight by gestational age. During the twelve years included in this review, a total of 312 newborn infants were hospitalized in the neonatal intensive care unit. All neonates of less than or equal to 1,000 grams (2 lbs 3 oz) were included in this review. Because the correlation between gestational age and birth weight is frequently important to physicians providing prenatal care, we would like to take this opportunity to describe our findings.

Approximately 21% of our population were small for gestational age. We therefore performed this analysis excluding those who were classified as small for gestational age. The figure demonstrates the plot of the individual data points for all 312 neonates. The trian-

gular data points represent infants who were small for gestational age. Circles represent appropriately grown for gestational age neonates, and pluses those who are large for gestational age.



Between 22 and 30 weeks gestation the correlation between gestational age and birth weight is described by a line with a correlation coefficient of 0.75. This line has the following equation:

birth weight (grams) = 61.6 x gestational age (weeks) - 800.5.

It should also be noted that the figure shows the regression line, as well as the 95% confidence interval lines on either side of the regression line. The 95% confidence interval includes the boundaries within which 95% of all of the observations for appropriately grown neonates will lie. The range of birth weights at any gestational age can therefore be approximated by the weights between the 95% confidence lines. A comparison of median values for the South Dakota population with the median values for the entire state of California for the years of 1970 through 1976 were very comparable.²

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REFERENCES

1. Stevens DC, Munson DP, Klinghagen RD, Becker BK: Survival of the tiny neonate: USD School of Medicine/Sioux Valley Hospital experience, 1981-1992. *SD J of Med* 1994;47(11):249-253.
2. Creasy RK, Cunningham GC, et al: Fetal growth and perinatal viability in California. *Obstet Gynecol* 1982;59:624.

Editorial

Proper Focus

Today, while reflecting on the treacheries and woeful vicissitudes of editorial writer's block, it occurred to me that perhaps I could combine ideas from several disparate sources into a coherent narrative. It strikes me that the best way to begin this effort is with a parable of sorts, and I happily just encountered one in the preface to Sun Tzu's *"The Art of War"*. In the translator's introduction to this ancient work, the following story is told:

According to an old story, a lord of ancient China once asked his physician, a member of a family of healers, which of them was the most skilled in the art.

The physician, whose reputation was such that his name became synonymous with medical science in China, replied "My eldest brother sees the spirit of sickness and removes it before it takes shape, so his name does not get out of the house."

"My elder brother cures sickness when it is still extremely minute, so his name does not get out of the neighborhood."

"As for me, I puncture veins, prescribe potions and massage skin, so from time to time my name gets out and is heard among the lords."¹

In this parable, the greatest physician is one who treats illness in its early stages, before it becomes severe; or perhaps prevents it entirely. Certainly one can easily think of medical conditions which might lend themselves to being "nipped in the bud". Several examples from neurologic practice immediately come to mind. One effective illustration might be the physician who perceives cognitive impairment as a pseudo

dementia related to depression, and expeditiously directs the patient toward effective treatment. A second, very simple instance of preventing problems might be seen in the physician who observes that a diabetic patient repeatedly sits crossing one leg over the other. Since diabetic neuropathy clearly makes such an individual more prone to compressive peroneal neuropathy, the physician might skillfully prevent a future foot drop simply by appropriate, anticipatory advice. A third example, and one I am particularly interested in at present, has to do with early recognition and treatment of panic disorder.

Until recently, I was unaware of the frequency and potential magnitude of the problem that panic disorder can cause. Indeed, my conversion to awareness occasioned my request of Dr Alan Brevik that he write a brief narrative on the subject for this issue of the *South Dakota Journal of Medicine*. If panic disorder is not properly recognized, the patient may well undergo multiple tests and consultations in an effort to define an organic basis for the symptoms. In addition to significant expenditures which result from such investigations, there certainly is a risk that undiagnosed panic disorder may become increasingly entrenched as a part of the patient's psyche and thus more difficult to therapeutically eradicate.

These remarks are not meant to minimize the physician's struggle to exclude serious, underlying organic pathology in patients who ultimately prove to have panic disorder. All of us fear failing to diagnose serious illness and the combined medical and legal implications of such failure. Similarly, many patients and families are very focused on the importance of

"making sure it isn't something serious" from the standpoint of physical disease. Certainly, as a consulting neurologist, much of what I do revolves around the issue of determining whether symptomatology is organic or not.

In the process of focusing on the wrath of physical maladies, it is very important not to trivialize the burdens of emotional disease. Sometimes, I think, we can adopt a smug attitude once tests have been completed and a decision is made that it's "all in the head" of the patient. In this regard, I remember an elderly visiting professor from St. Louis who once came to do rounds with me and my fellow residents. He stressed that anytime a patient is sufficiently distraught to present at an emergency room, the patient is in genuine crisis, even if no serious organic difficulty exists. The consultant stressed that to summarily dismiss or "turf" such a patient out of one's care fails to recognize the magnitude of distress which is playing havoc in the patient's life. The consultant counseled the importance of patience and understanding, rather than implicitly asserting that an emotional problem is of no significance compared to serious physical maladies.

While I, thankfully, have never had a panic attack, I have seen a number of such patients in the coronary care unit (as organic cardiac disease was being excluded). Almost uniformly, these patients report an intense fear of impending death, in addition to their mixture of somatic symptoms. Clearly these spells must be extraordinarily terrifying for patients.

The foregoing comments implicitly acknowledge the importance of seeing all illness (organic or otherwise)

in the context of what it means in the patient's life. I suspect that when we are able to step back sufficiently from our diagnostic and therapeutic paradigms, we will frequently perceive individuals with wretched and disabling conditions. In the spirit of such empathy, William May recently wrote a book entitled *The Patient's Dilemma*. In this work May notes the importance of focusing on the patient's burden in the face of illness. Indeed, May marvels at the almost heroic mien of some patients as they struggle with the ravages of disease, including both physical and emotional breakdown. While this patient-focused perspective does not downplay the caregiver's efforts, May's work can certainly serve to refocus the harried physician upon the reality of who it is in the clinical setting who has the most risk and pain.

I suspect that truly having a focus on the patient, as a unique and important person, has a lot to do with enabling the physician to curtail some medical maladies almost before they develop, as suggested in the ancient Chinese parable at the onset of this essay. To clearly appreciate the patient as a complex individual, assailed by a variety of contextual influences, can be almost as difficult as making eye contact in an elevator. It takes grit and practice.

Jerome W. Freeman, MD
Editor

REFERENCE

1. Tzu, Sun: *The Art of War* (translated by Thomas Cleary). Shambhala Pub, Inc, 1988.

South Dakota Society Of Pathologists



"Any Willing Provider" Law — Current Status

James R. Reynolds, MD

As the health system reform debate shifts from the government to a marketplace solution, the issue dividing medical communities across the nation is that of rights—health care providers' rights, patient rights and the right to deliver and receive care. At the core of the debate is the concept of "Any Willing Provider" legislation.

The "Any Willing Provider" concept refers to those laws that permit any willing health care provider—physicians, hospitals, chiropractors and others—who agrees with the terms and conditions of a health care plan (HMO, PPO, PHO, PO and others) and to be admitted to the health care plan's network. This does not mandate that all of these classes of providers have to be included in the health care plan but, if offered, then "Any Willing Provider" as noted would be allowed to participate. The provider must meet credentialing and licensing criteria of the plan.

Currently 19 states have enacted laws designed to guarantee providers access to health care delivery systems. Of these, 6 states, one of whom is South Dakota, limit their statutes to "Any Willing Pharmacist". Seven states have "Any Willing Provider" laws that apply to physicians, but with a variety of limitations. Georgia, Indiana, Texas, Utah and Wyoming have broad based laws allowing any provider willing to accept the terms and conditions of a health care plan to participate in that plan. Illinois limits such participation only to non-institutional providers such as physicians, chiropractors and pharmacists. Wisconsin exempts HMOs and PPOs from "Any Willing Provider" provisions, whereas, the statute in Virginia applies only to "non-stock" corporations, ie. municipal corporations or not for profit corporations. In the "Florida Health Care & Reform Act of 1993", a key provision requires health partnerships to offer to at least 60% of providers within a community the opportunity to participate. Washington state's "Any Willing Provider" provision is triggered by the "market power" of the health delivery system where "Any Willing Provider" provisions are triggered when providers have substantial inability to practice, thereby, restricting patients access to medical care.

Proponents of "Any Willing Provider" legislation argue that such laws are necessary to "level the playing

field" between providers and the increasingly monopolistic managed care organizations. Particularly susceptible are solo practitioners or those just beginning practice. The strongest argument is that "Any Willing Provider" laws are pro-patient allowing increased access and "freedom of choice" among providers. In addition, disruption of long standing patient provider relationship does not occur. Ultimately it is agreed that "fundamental fairness" to providers is preserved along with a "right to work" ethic.

The center of opposition to "Any Willing Provider" laws lies in the increasingly large managed care systems. They argue that by mandating large numbers of providers administrative costs for credentialing, contract administration, quality review and monitoring of physician performance are substantially increased. Further, discounts from providers in exchange for increased patient volume are eliminated, thereby increasing the plan's cost to the employer and enrolled patients. Opponents worry that quality of care will be compromised by having to include inefficient and high cost providers. Ultimately, competition between providers is eliminated because providers are entitled to identical contract terms, decreasing incentives for providers to compete by developing alternative plans.

Of concern to providers is that large managed care companies will exert undo pressure on providers to protect the companies financial bottom line rather than give patients appropriate care. Providers, on the other hand, do not want to force health care delivery plans into having to include inefficient costly providers, however, they advocate allowing providers to modify their practice patterns to conform to the practice standards of the plan. It has been demonstrated that providers will modify their practice behavior if they can be shown that cost effective measures will not compromise quality of patient care. Finally, providers are not asking to change the health delivery plans' contracts and therefore, it is argued, will preserve competition between competing managed care firms.

The AMA, recognizing that managed care will have a growing influence on the practice of medicine, believes that it must work to protect physicians from improper exclusion from managed care plans. At the same time, the AMA recognizes a legitimate place for

competition in health system reform and the realities of the marketplace.

The AMA has, therefore, not adopted a broad based policy of support of the "Any Willing Provider" concept for the following reasons. First, there remains a lack of consensus among physicians and physician organizations as it relates to the "Any Willing Provider" concept. Second, physician owned or controlled networks realize the need for selective contracting with providers in order to compete with other managed care networks. Third, the marketplace and legislation on health care system reform have opposed "Any Willing Provider" legislation. In addition, the FTC position has been summarized by acting director W. O. Wise, "although the law may be intended to assure consumers greater freedom to choose where they obtain services, it appears likely to have the unintended affect of denying consumers the advantage of cost reducing arrangements and limiting their choices in the provision of health care services."

The AMA has advocated legislation to insure that physicians are not excluded inappropriately by managed care organizations and that patients' right to choose their provider is preserved. The act entitled "Patient Protection Act" was recently introduced in the house (HR 4527) and in the senate (S 2196). The following elements are included in the "Patient Protection Act".

- Patients and physicians—not insurance companies—control the care patients get.
- Patients have a choice of physicians and health care plan.
- Patients have information about what their plans cover, copayments and prior approval requirements.
- No physician can be kicked out of a plan for giving patients the care they need.
- Patients who choose a plan that restricts access to physicians may purchase a point-of-service option to see any physician or provider outside of the plan.

In addition, physicians' voice is maintained in medical policy making, developing criteria and other measures to insure quality patient care. Patients would be provided at least three options including an HMO, PPO, a traditional insurance plan or a benefit payment schedule plan.

The Patient Protection Act has received approval from every state medical association and 52 medical specialty societies in addition to the American Medical Association. Senator Paul Whelstone (D-MN), joint sponsor of senate bill (S 2196), states "any health care reform bill that is passed must have strong protection for consumers from the dangers of monopoly medicine. People, consumers and doctors alike, are unhappy, frustrated and frightened at the result of the merger of giant insurance plans that have left the health care market in the hands of an oligopoly". Some of what is happening is simply not in the best interest of maintaining choice and providing sensitive high quality health care.

The future of "Any Willing Provider" legislation will be determined at the state level and will be based upon the demographics of each state as well as the existing level of managed care networking. With the increasing role of managed care, estimated by the year 2000 to cover at least 75% of workers, there will be increasing pressure for consumer and provider protection. Rural states such as South Dakota with limited selective networks will face different issues than large urban areas. As summarized by Representative Fred Grandy (R-IA), "what is quality medicine to a provider of health care is frequently not cost effective to a manager of health care costs. This forces us to choose between legitimate needs of the physicians and the legitimate concerns of insurance companies. This forces us as politicians to choose between friends and to make enemies." Clearly choices will be required to balance the needs of patients and the concern of the competitive marketplace but, of the two, the unimpeded right to quality care and choice must prevail.

AUTHOR

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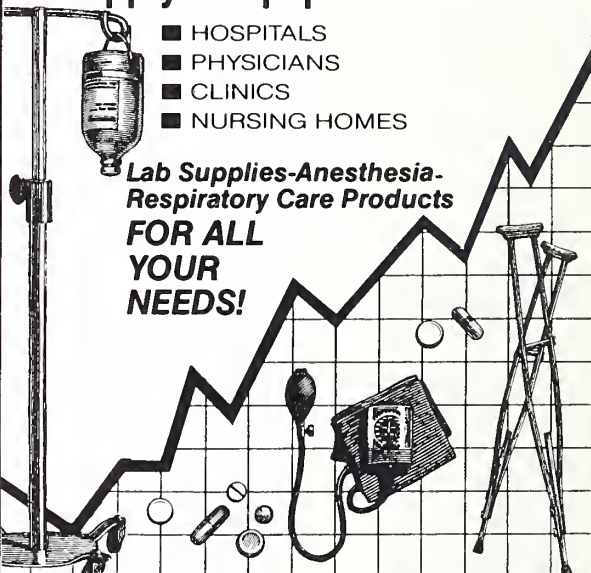
REFERENCES

1. Kassberg M: Managed Care: "Any Willing Provider" Laws: The Pros and Cons for Doctors. pp 31-35.
2. Castro J: Who owns the patient anyway? Time July 18, 1994, p. 38.
3. Johnsson J, McIlrath S: House panel slaps managed care. AM News July 11, 1994, p. 1.
4. Krieger GF: New rules. Safeguards are needed for managed care. Med News June 13, 1994, p. 34.

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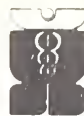
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Molecular Medicine: A Primer for Clinicians — Part VII: Ethical Issues Associated with Genetic Testing

Department of Biochemistry and Molecular Biology. Edited by Ronald Lindahl, Ph.D. and Virginia P. Johnson, MD

ABSTRACT

Previously, we described the concepts and methods of DNA-based or genetic testing. The unlimited diagnostic power of genetic testing, coupled with the reality that effective treatments for many conditions are not available, raises many ethical and legal issues. These issues are discussed as they relate to the bed-side practice of molecular medicine.

INTRODUCTION

We have previously introduced the concept of genetic testing and discussed the general methods employed in DNA-based testing.¹ Two types of genetic testing were defined. Family-centered testing in which a DNA-based test is performed on individuals or families with a previous history of the disease of interest. Genetic screening refers to the DNA-based testing of large populations of asymptomatic individuals who are usually family-history negative. We also described how various modern molecular biology methods such as PCR and RFLP analysis were used in genetic testing. The key to any successful DNA-based test is the identification and use of a highly specific DNA probe.

We have also defined the characteristics of a good genetic test. Any successful DNA-based test must have the optimal combination of high specificity and sensitivity, producing low rates of both false positives and false negatives.² A good test will therefore have a high predictive value of a positive result, meaning that an individual with a positive test result will actually develop the condition or is actually a carrier. We noted that for many, if not most DNA-based tests, high predictive value could be very difficult to achieve in a timely manner.

DNA-based testing is unique among all medical tests. It has the power to detect every mutant allele each of us carries. However, at-risk individuals may be identified long before effective treatments or prevention strategies are available. This combination of

unlimited diagnostic power and limited intervention capability raises many ethical and legal issues unique to genetic testing. These issues are discussed in this paper.

MODERN HUMAN GENETICS AND DNA TESTING

One major conceptual change brought about by modern molecular biology and the human genome project is the very way in which geneticists view genes and the transmission of genetic information. This is particularly true for disease-associated genes. The traditional view of Medical Genetics is that most genetic diseases are caused by single genes inherited in a mendelian fashion. At the level of the phenotype, this often appears true. However, for most genetic diseases, even the "classical" ones such as cystic fibrosis (CF) or Huntington disease or even the gene-based cancers such as retinoblastoma, the underlying genotype producing the phenotype is surprisingly more complex than expected.

As usual, CF serves as the paradigm for the new human genetics and the associated implications for genetic screening. A large number of different mutations in the CF gene can produce all or some of the clinical symptoms diagnostic of CF.³ This is an excellent example of many different genotypes (mutations) producing the same phenotype (CF). Moreover, some CF patients are compound heterozygotes; individuals who carry one F508 mutant allele and a second allele that carries a different mutation in the CF gene. Thus, they have CF but are not homozygous for one recessive

allele. One difficulty immediately becomes apparent. In a CF screening test, how does one screen for all the major mutations to eliminate the possibility of unacceptably high levels of false negatives and still keep the test simple and inexpensive? Currently, this is not possible. Moreover, part of the rapid increase in the number of different CF mutations identified following the initial reports of the F508 mutation, is due to the implementation of CF screening tests. As these tests are used to screen asymptomatic populations, it has been found that some individuals who do not possess the classic respiratory and GI tract CF symptoms nonetheless are either homozygous for a rare CF mutation or are compound heterozygotes for two rare mutations. The only symptoms these individuals exhibited are asthma or bronchitis, certainly not conditions diagnostic of CF. To further complicate the picture, some males with rare CF mutations are perfectly healthy, except that they are infertile because they lack a vas deferens.

The question could be asked: In how many patients presenting with asthma or bronchitis or with infertility as their only symptom would a practicing physician suspect cystic fibrosis, a "classical" genetic disease? How should a DNA-based screening test for CF be interpreted? Currently, a positive test does not predict how severe the disease will be in a particular individual. Likewise, a negative result does not assure that the individual will be disease free. At a minimum, the CF experience indicates that DNA-based genetic tests for many diseases will have to be interpreted with great care and be used in conjunction with other forms of testing for confirmation.

It is currently estimated that only about 3% of all human diseases are caused by defects in a single gene behaving in classical mendelian fashion. Thus, for only a small number of true genetic diseases, for example sickle-cell anemia, Tay-Sachs and some forms of hemophilia, will a single genotype (mutation) produce a single phenotype (disease). Only for such diseases will DNA-based testing, including screening of presymptomatic individuals, become clinically acceptable in the near future.

A second major difficulty confounding genetic testing is that most common diseases such as cancer, heart disease and hypertension are multifactorial disorders with both genetic and environmental components. The genetic component likely involves several genes, each of which must incur a mutation, often in a certain order, for the condition to ultimately be manifested clinically. Colon cancer is an excellent example.⁴ A mutation in each gene involved in the multi-step pathway leading to colon cancer must occur. However, each mutation only slightly increases the risk of reaching the end of the pathway; no one mutation can produce overt cancer. Not only does cancer have a strong genetic component, but environmental factors are crucial; exposure to potential carcinogens (mutagens) or anti-cancer agents (antioxidants) and a multitude of other lifestyle factors can modulate progression along the pathway. Therefore, a DNA-based test that detects a single mutation in only one of the several genes in the colon cancer

pathway will not have a high predictive value for determining whether colon cancer will develop in an individual. Likewise, detecting mutations in several of the genes may not be highly predictive if the appropriate deleterious lifestyle factors are also not present. Finally, one must consider the added problem just discussed with CF, that each gene in a disease pathway may incur many different disease-associated mutations. All of these may not be equally deleterious. Thus, multifactorial diseases will have variable expressivity due to the many components and steps involved in their pathogenesis.

ETHICAL ISSUES ASSOCIATED WITH GENETIC TESTING

Obviously, DNA-based testing has the potential to significantly change the practice of medicine in the near future. However, as the previous paper in this series indicated, how quickly that potential becomes reality depends in part on how rapidly the technology advances so that genetic tests with high positive predictive value can be developed.¹ How rapidly genetic testing becomes an integral part of clinical medicine also depends on the willingness of physicians to appreciate both the power and limitations of DNA-based testing. It also depends in large part on reaching a consensus on the major ethical issues surrounding genetic testing. It is precisely the power and limitations of genetic testing and screening that generate the ethical concerns of such interest today.

The ultimate power of DNA-based testing is its potential to literally develop a record of each individuals' genome with all its mutations and a description of the risks and benefits of testing for the conditions associated with each mutation.⁵ However, as we have already discussed, one major limitation of genetic testing is that the results of a DNA-based test, either positive or negative, may not accurately indicate the probability that the tested individual will or will not develop the condition. Therefore, given the potential ability of genetic testing to predict exactly what diseases an individual is at risk of developing, but knowing also that many other genetic and non-genetic factors may play a significant role in the ultimate outcome, and finally, knowing that for many, perhaps most diseases, the ability to diagnose them occurs long before effective treatment or prevention are available, what should be the place of DNA-based testing in the day-to-day practice of medicine?

Before the place of genetic testing in clinical medicine can be established, several issues must be discussed. Generally these relate to various aspects of patient autonomy, patient rights and patient privacy. One major ethical concern relates to the risks and benefits from genetic testing or screening, especially when there is no known effective treatment for the condition. In an earlier paper, we discussed this issue as it is related to the breast cancer susceptibility gene.⁴ For this and other inherited forms of cancer, a negative test result will mean that a woman is at no greater risk of developing breast cancer than any other female in

the general population. However, will a positive test result and elective prophylactic treatment really prevent that individual from developing the disease? For breast cancer, perhaps. Mastectomy removes the tissue at risk. However, for hereditary colon cancer, a prophylactic colectomy is not feasible without great impact on the patient's quality of life. Likewise, will less drastic interventions that reduce colon cancer risk for the general population, primarily changes in diet, be effective in genetic high-risk individuals? The same questions can be asked for heart disease, should a genetically-based, high-risk population be identified.

For another often cited example, Huntington disease, no treatment currently exists. Thus, the goal of genetic testing or screening for this disease cannot be earlier or more effective intervention. Is it ethical to do family-centered testing or screening for diseases for which no cures exist? What is gained by such testing and at what cost to the individual? What is the emotional impact on an asymptomatic carrier who learns that he or she will develop Huntington disease in 20 or 30 years? What if an individual does not want presymptomatic testing but his test result is needed to establish risk for other family members who want to know? What is the psychological impact on the individual whose test is negative but whose sibling is positive? Or vice-versa? Is there relief, guilt, sympathy, jealousy, resentment?

A related issue is deciding when family-centered testing for a particular condition expands to screening asymptomatic populations. This was discussed earlier in relation to the multiple mutations of cystic fibrosis and the broad spectrum of clinical symptoms they produce.¹ What then becomes the basis of diagnosis for a genetic disease (genotype-DNA or phenotype-clinical signs and symptoms)? What is the impact on individuals who believe they are healthy, only to be told they have a genetic disease? Will this affect their reproductive behavior and planning? Will they be stigmatized by others? Should only diseases for which effective treatments or cures progress from family-centered testing to population screening? What criteria should be used to define the target population to be screened? Again, CF is the best example to date. CF is the most common genetic disease in the U.S. However, 80% of all cases occur in families with no history of CF. Therefore, to progress from family-centered testing of CF-positive families to population screening would mean that virtually all couples of reproductive age must be screened for there to be an impact on the incidence of CF.

A second major ethical concern surrounding genetic testing relates to "ownership" of the results of a DNA-based test? Are genetic test results different from any other medical information that is traditionally held in confidence as part of the doctor-patient relationship? Is this information to be provided only to the patient and not shared with third parties without the patient's permission? This introduces the concept of "genetic privacy". Because we all share half our genetic information with our parents and siblings, are we obligated

to inform them of the results of any genetic test because of the potential impact on them? In two separate surveys over half the lay public and the group of physicians surveyed felt that individuals other than the patient have a right to know the results of a genetic test.⁶ Among the public, 98% of those believing results should be shared felt that a spouse or fiancé(e) should know.

The scope of sharing genetic test results extends beyond close relatives. Half the public and over 10% of physicians surveyed said they would inform the patient's insurance company. A third of the public and a quarter of the doctors felt that employers should also be informed. This introduces a second new concept, the potential for "genetic discrimination". Do prospective insurers and employers have a right to know whether an individual is at high risk of developing a debilitating disease in the future? An individual who tests positive for a disease will be viewed by an insurance company as potentially more costly than an individual who tests negative for that disease. Is it reasonable to ask such individuals to pay higher premiums or accept certain exclusionary clauses in order to obtain health or life insurance for themselves or their family? Or should insurance companies return to some type of community-based rating for health care coverage rather than setting rates on an individual basis? If so, is it reasonable to expect healthy individuals to pay higher premiums to provide coverage for those at risk? Will genetic testing someday establish that we are all at risk for some disease (breast cancer) or other health hazard (obesity) so we all should pay higher rates? What will be the impact of health care reform on health insurance as it relates to genetic testing? It is possible that some form of universal coverage will provide protection from certain genetic diseases, but may require families with certain other genetic conditions to purchase additional coverage. Will this affect reproductive choices of families at risk for diseases not covered by insurance? Will this lead to publicly guided eugenic measures?

The situation for employers is doubly difficult because they may not only be asked to pay a higher insurance premium for high risk workers, but they may also lose considerable productive work time in the future. The Americans with Disabilities Act likely protects individuals from discrimination during the hiring process on the basis of a genetic test result for diseases not related to their ability to do a job.⁷ However, it is not yet clear whether employers could perform post-hiring genetic testing and consider the results in how health care benefits are provided. For example, could an employer use the results to establish what jobs an employee could perform? If a DNA-based test indicates an employee is at high risk for developing a particular cancer, should the employer be allowed to prevent the at-risk employee from working under conditions where there is even the remotest risk of exposure to potential carcinogens, even if the employee actively seeks the job because it is higher paying or involves a promotion? Conversely, can the at-risk

employee refuse to perform certain jobs because of a perceived risk, even if it is documented that no potential for exposure exists? What about jobs that involve emotional or physical stress for employees at high risk for cardiovascular disease and therefore for heart attack or stroke? Since many of these jobs may be higher paying or supervisory, can the at-risk individual justifiably be denied the position because the employer wants to protect his investment in the employee or reduce the possibility of having his health insurance premiums raised due to increased benefit payments should the employee develop the disease?

A third major ethical concern relates to patient education. Here there are several issues. One is providing relevant information to patients who are considering or have been recommended for genetic testing. A second is the education of the health care professionals who will provide this information. Finally, the education of the public in general about genetic testing is critical. More so than for any other medical test or procedure, providing good counseling to patients considering genetic testing is essential. This is because of the potential psychological impact of the results as well as the fact that many tests, especially those for multifactorial diseases, only provide relative risk estimates rather than absolute yes or no answers. The general lack of patient knowledge about modern molecular biology and the potential additional anxiety produced by the popular usage of terms such as "genetic or DNA testing", "genetic engineering" and "human genome project" will demand extensive patient education.

Counseling must be provided prior to, and following, testing and presentation of the results to the patient. Pre-test counseling should provide information on generally how the test is done, what the risks and benefits of the test are, how the results, positive or negative, must be interpreted; what treatments or interventions are possible in the event of a positive result, and what non-DNA-based methods are available to obtain the same information. Informed consent and agreement on who will be provided the results must be obtained. All this must be done in an atmosphere that protects patient autonomy by being as non-directive as possible, especially with respect to electing to have the test performed and regarding subsequent possible interventions. Post-test counseling must be as extensive, especially for positive results. The patient must understand what the results mean and what their options are. Psychological counseling must be available to support the patient and immediate family. It is not likely that these goals can be accomplished in one or two sessions, therefore counseling will be both time and labor intensive.

Who will provide this counseling? The number of physicians trained as medical geneticists and genetic counselors practicing in the U.S. is woefully inadequate to provide the types of counseling needed to support any widespread use of genetic testing or screening. The number of genetic counselors is approximately 1000. The number of practicing geneticist-physicians is much less. These numbers are currently sufficient to deal

with the patient counseling generated by the limited number of family-based and screening tests provided today since much of the testing is done in an academic medical setting. However, as testing, and particularly screening programs, become readily available through commercialization, much of the burden of providing patient education will rest with the private, primary care physician who will likely have minimal formal experience in human genetics.

It is the feeling of many that the pace at which genetic testing is adopted by practicing physicians will be dictated by patient need and professional education issues rather than by the availability of good genetic testing protocols.⁸ A recent informal survey of primary care physicians revealed they could correctly answer less than 75% of the questions posed to them about facts and concepts important for them to know in order to provide genetic testing.⁸ Obstetricians, pediatricians and family physicians who deliver babies knew more than physicians not involved with reproductive services, probably because the former encountered more genetic problems. Almost 75% of those asked said they would offer an error-free, inexpensive test for CF. However, once the limitations of the current CF test were described (as we have discussed above), less than 50% would routinely screen for CF. Thus, while knowledge of genetics may be somewhat limiting initially, it seems likely that as physicians gain more objective information of practical use to them, they will be able to appropriately define the niche of DNA-based testing in their practice.

Not only must physicians be willing to learn the facts and concepts about genetic testing themselves, they must become comfortable with discussing this information with their patients and they must be willing to provide patients with the necessary emotional support services. For most physicians, this will mean spending considerably more time in discussions with their patients. Will physicians be willing to do this? Patients with a family history of a genetic disease are often more knowledgeable about the condition than their physician. Will this become threatening to physicians? Will physicians feel comfortable in raising the possibility of genetic testing with patients with no family history of a condition, especially considering the potential for adding another dimension to patient anxiety?

The pace of widespread adoption of genetic testing will be determined by physician education and also by a variety of other factors. As new tests become commercially available, advertisements in professional journals and other promotional means and use by competing practitioners will raise physician awareness. Demand by patients, driven by mass marketing strategies of test manufacturers and the reports of new testing technologies in the media, are also likely to be effective. Finally, the willingness of insurers to reimburse for genetic testing will be a significant factor in test proliferation.

Because of the unique combination of opportunities to do both good and harm, the National Institute of

Medicine has provided a set of recommendations regarding DNA-based testing to maximize its potential benefits and minimize its risks.⁹ These recommendations provide an excellent summary of our discussions regarding genetic testing:

1. All genetic testing or screening should be voluntary.
2. All test results should be confidential.
3. All testing or screening should be conducted in association with pre- and post-test counseling.
4. Genetic testing or screening should be limited to diseases or conditions for which a beneficial outcome is possible. This can be either in the form of an effective treatment or in allowing patients to make informed reproductive decisions.
5. No genetic testing or screening should be done simply to provide information to the patient. Testing or screening should be done to provide a beneficial outcome.
6. No social pressure or financial inducement should be provided to encourage testing.

The successful implementation of any DNA-based test will be determined by its predictive value, its ability to improve the quality of life for those tested and its cost effectiveness. When utilized with the above caveats, genetic testing is no different than any new drug or medical device. The adoption of any medication or procedure as the standard of practice means that it has been established that the potential benefits clearly out-

weigh potential risks. However, because of the profound ethical and social ramifications of DNA-based testing, the adoption of any genetic test as a standard of practice will depend ultimately on its acceptance by an informed society.

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REFERENCES

1. Lindahl R: Molecular medicine: A primer for clinicians. Part VI. Introduction to genetic testing. *SD J Med* 1994;47:392-395.
2. Shickle D, Chadwick R: The ethics of screening: Is "screeningitis" an incurable disease? *J Med Ethics* 1994;20:12-18.
3. Lindahl R: Molecular medicine: A primer for clinicians. Part IV. Cystic fibrosis and the power and limitations of molecular medicine. *SD J Med* 1993;46:393-398.
4. Lindahl R: Molecular medicine: A primer for clinicians. Part V. Cancer. *SD J Med* 1994;46:187-193.
5. Fost N: Ethical implications of screening asymptomatic individuals. *FASEB J* 1992;6:2813-2817.
6. Rennie J: Grading the gene tests. *Sci Am* June 1994;270:88-97.
7. Natowicz MR, Alper JK, Alper S: Genetic discrimination and the law. *Am J Human Genet* 1992;50:465-475.
8. Holtzman NA: The diffusion of new genetic tests for predicting disease. *FASEB J* 1992;6:2806-2812.
9. Assessing Genetic Risks: Implications for Health and Social Policy. Andrews LB, Fullerton JE, Holtzman NA, Motulsky AG, eds. *National Academy Press*, Washington, DC. 1992.

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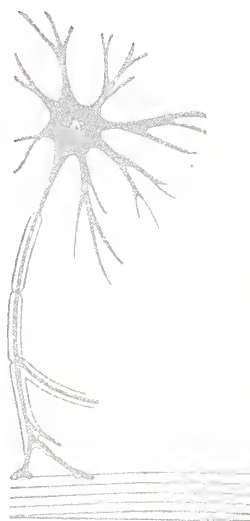
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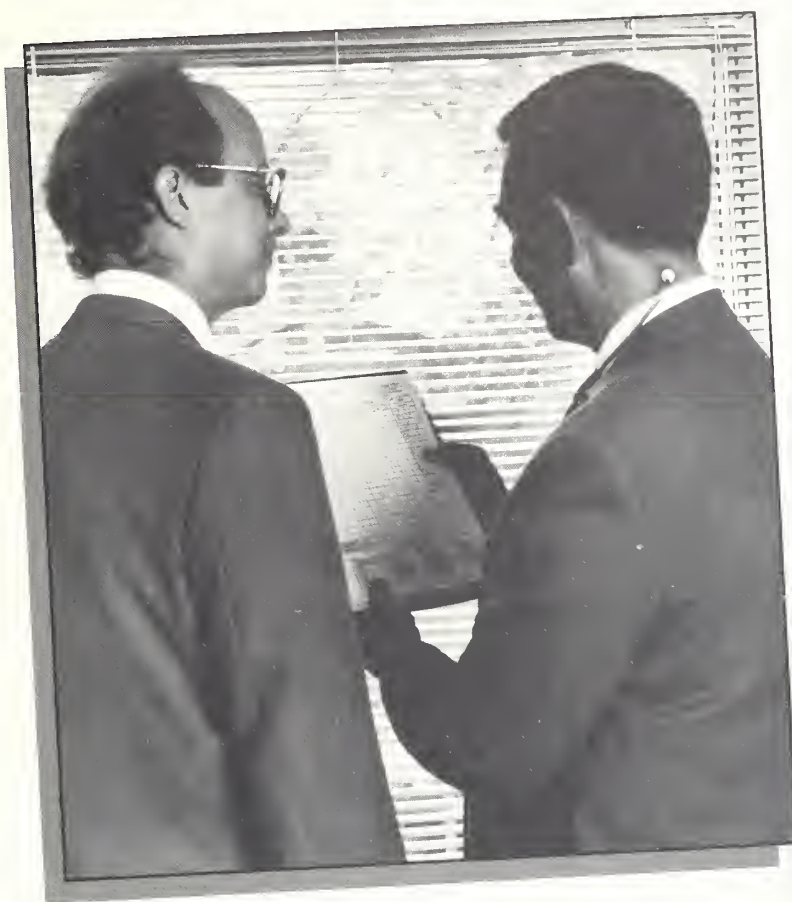
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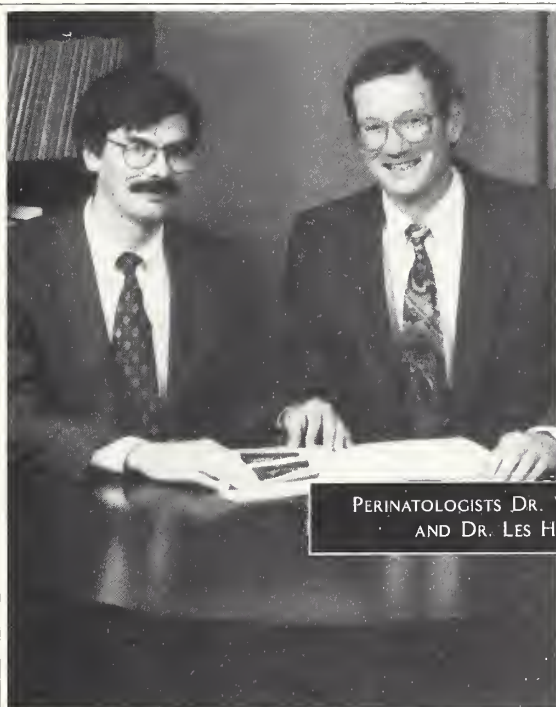
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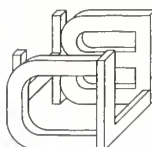
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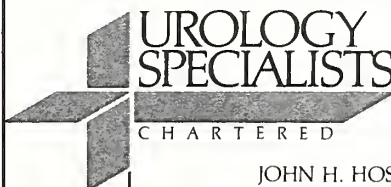
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Virtue and Longitudinal Ethics Education in Medical School

Jerome W. Freeman, MD, Ann L. Wilson, Ph.D

ABSTRACT

This article advances the argument that the inherent virtue/character of the caregiver is an important element in clinical ethical decision making. Virtue should be promoted as an essential component of professional behavior, and specifically emphasized in both medical student education and professional practice.

A discussion of medical ethics typically focuses upon how decisions are made that affect patient care. End of life decision-making, allocation of scarce resources, futility of care and truth-telling frequently surface as concerns that require expertise in ethical problem solving. What has received less attention has been how ethical character can be nurtured as medical students progress through their education. Criticism, however, is not lacking when young professionals fail to demonstrate respect for what are considered traditional values. The premise of this essay is that virtue in the physician must be paramount and serve as the foundation and core for the ability to make ethical decisions.

Virtue refers to the basic core traits of character such as honesty, integrity and dedication that are certainly fundamental to professionalism. While the development of such traits is presumably encouraged by responsible child rearing and socialization in educational institutions, questions can be raised regarding the validity of assumptions about students' prior experiences. Calls have been made for what may be considered "remedial" education to foster virtue among current medical students. This essay will describe this concept and provide suggestions for how virtue can be fostered concomitantly with an educational curriculum on medical ethics. As part of this analysis, current influences in the lives of today's students, which affect their development of virtue, will be explored.

THE ENVIRONMENT OF CURRENT STUDENT LIFE

Prior to a critique of student behavior, one must first examine the behavior of health care providers who are indeed the role models of those in training. Certainly, students are exceedingly impressionable and sensitive to how they are treated and to what they observe during

their years of training. Numerous influences can affect the practice of "ethical" medicine, and these may be manifest in the behavior observed by contemporary students.

Physicians today function in a more "managed" environment than ever before. While the term managed care typically refers to the financial aspects of clinical care, it also refers to a high level of scrutiny and external control over decisions that are made regarding the care patients receive. This level of external control is frequently recognized as annoying. It is also intimidating and is not infrequently laced with a litigious aura that fosters uneasiness. Should shortcomings be openly acknowledged or somehow disguised? Does one dare to acknowledge a decision that may have reflected poor judgment or does one rationalize poor reasoning or retrospectively manipulate data to accommodate the decision made? If flaws are admitted, is one's practice jeopardized or limited by third party payers? How does fear of "external" forces limit willingness to be intellectually honest? Is our current environment, which is theoretically attempting to assure quality, actually creating such a hostile milieu that willingness for honest self-appraisal is undermined?

When the environment "feels" hostile, even to self appraisal, recognizing and discussing shortcomings in colleagues can be enormously difficult. One can risk alienating important collaborative and perhaps lucrative relationships. Furthermore, such interactions typically provoke enormous personal discomfort that may prompt withdrawal from situations rather than direct communication. The interpersonal skills of many practitioners are insufficient for the challenges of such a task.

When today's students are socialized in this environment an explicit appreciation of so called "old virtues"

may be neglected. Are the old virtues intact among those in the teaching, precepting and attending roles for these students? This question needs to be addressed prior to critiquing what is often viewed as an erosion in the virtue of today's students and how it is taught.

In addition to these contemporaneous influences, which help fashion what students observe, questions have been raised about earlier influences that have affected them during their years prior to medical school. Sommers¹ notes that moral education in recent decades has been dominated by interest in values clarification and Kohlberg's understanding of how moral reasoning develops. The suggestion has been made that neither of these approaches to education place an emphasis upon instilling respect for virtue but rather focus upon assisting students' development of a personal hierarchy of values and guiding teachers' understanding of how cognitive development affects moral reasoning. While some would argue that these influences have eroded respect for traditional values, empirical evidence for such reasoning is lacking.

Further, it is argued by Bickel² that traditional moral principles have become subservient to more "self centered values stressing materialism and winning." She notes that little progress has been made in medical schools' efforts to judge their applicants' qualitative attributes such as character and ethics. Anderson and Obenshain³ similarly emphasize the changes in moral education that have characterized recent decades. They see traditional Western moral traditions giving way to a type of new morality lacking focus on personal virtue.

While theoretical explanations for what appears to be changing values fail to be empirically supported, there are data available that speak to specific behaviors such as cheating. This can serve as a discrete example of unethical student behavior. Anderson and Obenshain³ note in their study that both faculty and students acknowledged a significant degree of unethical behavior at their institution, especially regarding cheating on examinations. Sierles et al⁴ note that cheating is very frequent among pre-medical students (87.6%); cheating in medical school persists (58.2%); and that there appears to be a positive correlation between a willingness to cheat in medical school and to be dishonest in patient care (i.e. falsifying information about a patient's history, physical examination or laboratory studies). Simpson et al⁵ also document a significant incidence of cheating in medical school. Moreover they suggest that there may actually be some decrement in ethical behavior during the four years of medical school. They found seniors to be more tolerant of dishonest clinical behavior than first year students.

Similarly, Feudtner et al⁶ suggests that an "ethical erosion" may take place during the four years of medical school. In their study, 62% of students "believe that some of their ethical principles had been eroded or lost....". Feudtner et al pose the important question of whether ethical erosion can be prevented in the course

of medical education. Anderson and Obenshain³ have similar concerns, noting that students become less idealistic as they progress in their education.

While these descriptive data are of interest and enable a view of less than admirable student behavior, they fail to enable a comparison of today's student with those of the past. Are student's values truly eroding from traditional expectations of virtue? Evidence is unavailable to address this question. What is undeniable is the fact that data reveal unacceptable behavior among students and faculty alike. The question becomes how to respond to such observations so that virtue, rather than self interest and deceit, become the foundations of character that prevail among prospective physicians.

FOUNDATIONS FOR A CURRICULUM THAT PROMOTES VIRTUE

Certainly one can readily make the argument that it is important for medical school admissions committees to attempt to improve qualitative assessments of candidates' character. Equally important, it would seem, is the notion that medical schools must establish a community and culture that strongly promotes ethical behavior. The difficulty, of course, is how to establish such a program. Some authors suggest that educators must more explicitly define and teach ethical behavior. Sommers¹ alludes to the "old bags of virtues" including wisdom, courage, compassion and "proper" behavior. Bickle² lists honesty, respect for others, personal responsibility and civic duty. Anderson and Obenshain³ also allude to core values common to the world's traditional moral systems, including honesty, compassion, dedication, integrity and self sacrifice. They contend that faculty must be more vigorous in promoting basic core values. Anderson and Obenshain also note that the faculty, as well as students, must be actively engaged in such a dialogue if it is to succeed. They acknowledge some of the forces in medical education that can erode ethical behavior. Thoughtfully, they ponder that "a cheater lurks inside all of us", and that the goal is not to ignore this tendency but rather to learn how to confront such inclinations as part of the "right of passage" in becoming a physician. They argue that moral principles can be taught and that such education can indeed impact on student behaviors.

The complexities and uncertainties of these issues certainly demand further study. However it does seem evident that three facts can be acknowledged:

1. ethical and value decisions are interwoven into the fabric of medical practice and are unavoidable;
2. teaching students about specific methods of bioethical decision making can enhance the students' ability to identify ethical issues and hopefully help resolve them;
3. most of the time the final arbiter of what is done in the clinical setting ends up being the physician.

It is possible for a physician to be well grounded in medical science and to give lip service to ethical decision making and still be lacking in personal integrity/virtue. If a physician is not inherently of good character, appropriate actions for patients may be jeopardized. If this is true, it would seem to be vitally important for medical schools to focus on character development and individual ethics/responsibility of medical students.

Optimistically, we believe that moral behavior can be taught and observed, and subsequently adopted into students' personal lives. Any program that tries to enhance individual moral behavior in medical students must have the support and involvement of the faculty. Isolated and unrelated efforts at periodically promoting moral behavior are not likely to be too effective and may even appear to lack genuine integrity. Rather, it would seem advantageous to emphasize the importance of character and moral behavior in an on-going way throughout the four years of medical school. Anderson and Obenshain³ stress that faculty must define the culture of the institution and work to develop strategies to demonstrate for students the importance of moral behavior. Efforts should be made for the faculty to specifically discuss (as well as model) core virtues. Students watch faculty closely, and invariably adopt both positive and negative aspects of their behavior. This might be seen, for instance, in the student beginning to mimic disparaging comments the attending makes about the nursing staff or perhaps about certain types of frustrating patients.

While uniform agreement among faculty as to which "core virtues" are most important might be difficult to obtain, the very debate and discussion can be fruitful for the faculty, as well as the students. Necessarily, such faculty/student dialogue is an on-going process that is modulated depending on faculty commitment and student response. However, the effort by the faculty and students to bring such personal virtues to the forefront of consideration can certainly serve to nurture the institutional milieu and to clarify important aspects of what it means to actually be a physician.

In the following paragraphs we offer reflections on specific means of integrating this emphasis on virtue and ethics into the medical curriculum.

PRE CLINICAL EDUCATION: YEARS I AND II

Traditionally over the past twenty years, most medical ethics education has been structured around the use of ethical principles to confront specific clinical dilemmas. Such clinical issues, however, are far removed from the experience of first year medical students.

Ethical discussions for first year medical students should be focused upon the students' most immediate concerns. Moreover, this should be done in the context of striving to emphasize the importance of personal integrity and virtue as a foundation for future ethical behavior. For instance, Anderson and Obenshain³ suggest specifically reviewing the institution's honor code with students. To include significant numbers of the faculty in this discussion would be instructive, as it has

been noted that "the vast majority of faculty readily acknowledge never having read the honor code...."³ Such discussions can emphasize the importance of truth telling, honesty, the avoidance of cheating and personal responsibility for reporting unethical conduct in one's peers. Another fruitful area of deliberation during the first year might include analysis of competition versus collaboration among medical students working to excel academically.

As such educational efforts are planned, it is important to recognize that interpersonal skills can modulate the ability to effectively demonstrate virtue. For instance, education on the importance of recognizing and responding to unethical behavior should include emphasis on interpersonal skills essential to effective communication. An emphasis on helping students develop the interpersonal skills that allow confrontation to occur in a gentle and acceptable manner is likely to also provide students with greater confidence in being able to address difficult situations with each other. Such training could involve students in role playing demonstrations and provide them with feedback from those skilled in communications. Faculty can emphasize that practice, critique and more practice are required to develop skill in interpersonal relations.

Of recent and very important interest is the issue of abuse of medical students by faculty.⁷ Recognition of how this faculty behavior is likely to be later modeled by students and a clear understanding of the intergenerational nature of abusive and violent behavior emphasize the need for this concern to be dealt with in a clear and definitive manner. Students need to know that such behavior will not be tolerated by their educational institution and that they have means of responding to such mistreatment when it occurs.

English and Muller⁸ point out that the stresses of student life can have important ethical implications. Many stresses, which are inevitably a part of a first year student's life, may be associated with behavior that lacks virtue. Student life and behavior should be analyzed in this context. An important challenge to an educational institution is how the community of students may provide supports to buffer the effect of the stressors and simultaneously promote virtuous behavior.

In the second year, as students are exposed to physical diagnosis sessions with actual patients, the time is ripe to expand the ethical dialogue to more actively include patient matters. Early on there might profitably be reflection on intellectual honesty as part of acknowledging the inevitable errors of omission and interpretation that occur as students begin history taking and physical exams. Virtue also can be stressed in the context of respect for the patient's right to privacy and the importance of confidentiality. Such concepts should be modeled and reinforced by faculty.

CLINICAL CLERKSHIP YEARS: YEARS III AND IV

In the third year, ethics education can now focus more specifically on ethical decision-making in specific clinical situations. However, there should continue to

be an emphasis on the caregiver's virtue as being integral to the process of making value decisions. The use of such traditional ethical principles as autonomy, non-maleficence and beneficence can be emphasized as important tools to employ in times of ethical debate in the clinical setting. Oftentimes the student will encounter issues of informed consent. Most likely, the third year student will also be involved with some end-of-life issues such as code status and debate about discontinuing aggressive but futile treatment. Virtue in the use of ethical principles can be demonstrated as relevant to meticulous data collection, honest interviews with families, and a willingness to hear views of patients and families that may be at variance from personal belief systems. As students become clinically involved with patients they may well be exposed to a diversity of life not before known to them personally. This is an excellent time for discussion of individual differences and an insistence upon students' respect for others whose race, religion, sexual orientation, age or gender may differ from their own.

Also, issues of faculty/student relationships can be discussed. As noted by English and Muller⁸ this can include discussion of conflicts of interest which the student might encounter (e.g. as when an attending physician suggests a course of action with which the student is uncomfortable).

Branch et al⁹ describe an interesting means to fashion dialogue with third year students through a required course on patient-doctor relationship that meets weekly in small groups with faculty members. In this course students are assigned periodic brief reports about "critical-incidents" occurring in their clinical rotations. Very often the episodes described by the students appeared to have significant ethical and value overtones and afforded opportune times for exploring these dimensions of health care.

Another possibility is to have a nonmedical observer accompany the rounding party and then meet in a private setting with the attending physician, residents and students so that examples of positive interactions, and those that may have been more appropriate, could be considered. Such feedback sessions are likely to be met with some resistance. They may provoke uneasiness and even seem threatening, but if managed carefully they could serve as powerful opportunities to learn about one's behavior.

Also, a weekly late afternoon session could be designated as a time when available faculty and students might gather at the medical school (either in a large group or smaller groups) for discussion of topics of concern. Centering these informal discussions around "critical-incidents", as discussed above, might prove very fruitful for both students and faculty. Periodically, more formal gatherings might also be sponsored by the medical school to foster student and faculty interaction. Since students become, at least in part, mimics of who the faculty are, it is vitally important for faculty to reflect on themselves as role models and to work to improve the image they project.

CONCLUSION

In summary, ethical education should be a longitudinal process throughout the four years of medical school. Initial emphasis should be placed on issues of individual integrity and character. As the student becomes more involved in the clinical setting, topics focusing on patient care can begin to predominate, with emphasis on carefully using ethical principles to assist decision making. Throughout the four year curriculum, however, the medical school faculty should continue to actively promote a dialogue about fundamental virtue and integrity in the caregiver. Such a focus represents a recognition of the need to attend to basic character and evolves from the last two decades of ethics education that have mainly concentrated on attempting to resolve ethical dilemmas through the application of abstract principles.

It is the prime thesis of this essay that virtue in the caregiver must be paramount and must logically precede the utilization of ethical principles. Only if the caregiver is of fundamentally good character can the proper application of ethical principles be assumed. Medical schools should not shy away from the language of virtue and from dialogue that critically speaks to personal character. As part of this effort, the faculty must explicitly recognize their powerful impact upon students as role models. The faculty needs to encourage an on-going dialogue among themselves, as well as with the students, about what it means to be a physician and an educator in a challenging realm that demands virtue and ethical acumen, as well as scientific and technical expertise.

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REFERENCES

1. Sommers CH: Ethics without virtue: Moral education in America. *Am Scholar* 1984;53:381-389.
2. Bickel J: Medical students' professional ethics: Defining the problems and developing resources. *Acad Med* 1991;66:726-729.
3. Anderson RE, Obenshain SS: Cheating by students: Findings, reflections, and remedies. *Acad Med* 1994;69:323-332.
4. Sierles F, et al: Cheating in medical school. *J of Med Educ* 1980;55:124-125.
5. Simpson et al: Medical students' perceptions on cheating. *Acad Med* 1989;64:221-222.
6. Feudtner, et al: Do clinical clerks suffer ethical erosion? Students' perceptions of their ethical environment and personal development. *Acad Med* 1994;69:670-679.
7. Silver HK: Medical student abuse: Incidence, severity and significance. *JAMA* 1990;263:527-537.
8. English DC: Bioethics: A Clinical Guide for Medical Students. WW Norton & Co., New York 1994.
9. Branch W, et al: Becoming a doctor: Critical-incident reports from third-year medical students. *New Eng J of Med* 1993;329:1130-1132.



**Helen Owens, President, South Dakota
State Medical Association Alliance**

You will find as you look back upon your life, that the moments that stand out, the moments when you have really lived, are the moments when you have done things in the spirit of love.

Henry Drummond

The spirit of love, goodwill and peace are traditionally part of the holiday season. As we move through the busy months ahead, I encourage you to share some gifts that will increase those feelings in your family and work relationships. In his book, *Priceless Gifts: How To Give The Best To Those You Love*, Dr Daniel Sugarman suggest the following gifts:

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- The gift of acceptance
- The gift of seeing the best in people
- The gift of privacy
- The gift of self-esteem
- The gift of giving up a bad habit
- The gift of self-disclosure
- The gift of helping someone learn something
- The gift of listening
- The gift of fun
- The gift of letting others give to you

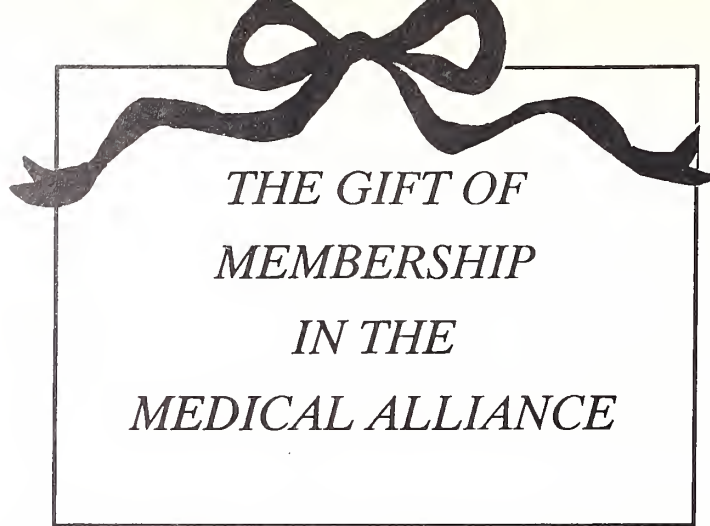
These gifts cost nothing but in giving them we have everything to gain — love, peace, goodwill.

Fondly,

Helen

The District Medical Alliances showed their spirit of love in some of the following ways last year:

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- Sponsoring a family's medical needs for a month
- Distributed AMAA's Shape Up For Life coloring books through emergency rooms
- Served the Banquet
- Scholarships for nursing students
- Meals on Wheels
- Donated books to the Children's Inn
- Renovated a bedroom in the Women's Resource Center
- Hospital orientations for elementary students
- Health fairs
- Planted perennial bulbs at the Children's Home Society
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- Staffed hot line for breast cancer survivors
- Scholarships for science camp
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Ethics and Formulary Choices

Brian Kaatz, Pharm.D., Sioux Falls, SD

Therapeutic Formularies have been important to institutions for many years. Their purpose has been to limit the number of drugs to be kept in stock by pharmacy departments, thus saving inventory costs and eliminating less efficacious drugs.

In the not-too-long-ago "old days", choices for inclusion or exclusion of specific drugs were made in relatively straightforward fashion. There was some latitude for selection and generally decisions were made locally, for local patients, based largely on physician preference and usage patterns. An attractive new drug was frequently added to the formulary with a minimum of thought or discussion. Drugs were not necessarily replaced when better ones surfaced. The old ones were kept "just in case". While this approach would seem to be reasonable and workable, it did not last.

In the 1980's cost containment became paramount. Comparatively more pressure came to bear on all elements of resource use and selection within hospitals and other "systems", including which drugs should be used and maintained on the formulary. It became less likely that drugs were chosen for capricious reasons or "just because". Similarities within a given class (for example, cephalexin and cephadrine) often resulted in *therapeutic* substitution, a concept that did not always come readily.

The use of formularies and their rationale has changed. Many health plans that cover drugs also vigorously maintain formularies. Cost effectiveness has become a compelling criterion for new drugs that are proposed to be added to the formulary. Efficacy and costs are weighed against each other, sometimes uneasily. It is not uncommon for a Pharmacy and Therapeutics Committee to discuss the virtues of a powerful, effective new drug in the context of its expense. Is it important enough to add a drug, for example, if it will save, on average, 12 patients per every 1000 uses, but cost \$1500 more for each use? One need only change the level of statistical significance and the names and indications of the drugs to create familiar everyday dilemmas.

Rightly, this problem is now being dealt with at least partially from an ethical standpoint. It is not just an economic issue. In fact, these factors of ethics and economics can not be cleanly separated. When resources (in this case, dollars for drug procurement) are scarce, matters of justice and allocation become important elements in decision-making.

Individuals now in leadership positions were quite likely taught to advocate for the very best drug in every

patient situation, costs notwithstanding. It sometimes now seems strange to have to carefully weigh competing factors, but many would hold that it is proper to do so. High health care costs are not just a local problem to be dealt with locally. They are equally a national problem. "Reform" to this point has largely consisted of cost shifting maneuvers that only serve to temporize. Payors face consistently higher costs and smaller payor bases under greater and greater stress.

The United States health care "system", such as it is, does not recognize and consistently deal with resource limitations like some other nations do. Yet there are clear societal side effects to ignoring resource limitations and routinely using every expensive drug that becomes available. These effects include more cost shifting, lack of financing for educational and disease prevention programs and continuing insurance dilemmas.

If each P & T Committee accedes to the "temptation" of adding new drugs without critical review, the upward spiral of medical costs will continue. The high costs that all segments of society, including the health care industry, deplore will not be reversed by purchasing new expensive drugs with only marginal improvements.

Continued research efforts for new and improved drugs are important and should be vigorously supported. Hand-in-hand with that support, however, should be the realization that not every drug brought to us can be afforded. Each new compound must be critically evaluated for substantial improvements. Just as we are admonished in an environmental context to "think globally, act locally", so must local Pharmacy and Therapeutics Committees resist the pressure to add unnecessary drugs.

REFERENCE

Adding an expensive drug to the formulary. *AJHP* 1993;50:1667-1670.



SDSU

Edited by Brian Kaatz, Pharm.D.



Extenuating Circumstances

A periodic column of personal, ethical and socioeconomic reflections of medicine.

What's In a Name?

Alan Brevik, MD, Yankton, SD

Panic disorder is a very common clinical entity, whose manifestations and treatment are not universally appreciated. Accordingly, I requested that Dr Brevik provide a brief clinical synopsis of the condition.

J. W. Freeman, MD, Editor

CASE HISTORY

Jill was sitting with her husband at a cattle auction when suddenly she developed shortness of breath, a fast heart beat, trembling and sweating. She then had numbness and tingling in her right arm, face and leg. Even though she was in her early 20's, she was afraid she was having a stroke. Her husband then brought her to the emergency room.

Jill was referred to a neurologist who did a complete neurological workup. He ruled out any central nervous system disease. Jill then told him that she had attacks like this previously and had a fear of further attacks occurring. She was referred to a psychiatrist and treatment was initiated. Her symptoms cleared completely.

DISCUSSION

Panic disorder is a discreet psychiatric entity. It often presents with symptoms that resemble cardiac, neurologic, or gastrointestinal disease. Often the patients are thought to have somatization disorder or hypochondriasis. It is common for patients who have chest pain and palpitations and fear of dying to rush to an emergency room thinking they have had a heart attack. Often what they are experiencing is a panic attack. These patients will then frequently have a complete cardiac workup, including coronary angiograms. About a third of the time panic disorder is a diagnosis in patients who have angiographically normal coronary arteries. Mitral valve prolapse is present in 30%-50% of patients with panic disorder. Mitral valve prolapse is the only cardiac abnormality associated with panic disorder. Panic disorder is common. It is found in up to 3% of the population and can be emotionally, socially and occupationally disabling. This disorder has been increasingly recognized since the 1980's. Panic disorder is diagnosed when a panic attack is followed by a one month long period of concern about having another panic attack. Panic disorder is commonly associated with agoraphobia, depression and substance abuse. Agoraphobia translates to fear of the market place. These patients develop phobic avoidance of any situation where escape would be difficult. They then become house bound.

The etiology of panic disorder is thought to be a supraphysiological release of norepinephrine. This is followed by the "fight-or-flight" symptoms characteristic of the disorder. The locus ceruleus is a small center of the brain that releases norepinephrine. When the patient cannot understand the reason for these catastrophic symptoms he becomes fearful of having another attack. He or she then has anticipatory anxiety. The patient then avoids situations where the attack may occur. This sets up phobic avoidance.

Appropriate treatment will help the majority of patients. Treatment is with medications and cognitive and behavioral therapy. Common medications include benzodiazepines, tricyclic antidepressants and monamine oxidase inhibitors. The two most commonly used benzodiazepines are clonazepam and alprazolam. Most antidepressants are effective for the prevention of panic attacks and the treatment of anticipatory anxiety. In current practice it is common to start both a high-potency benzodiazepine and tricyclic antidepressant. The antidepressant is effective in about three weeks. Then benzodiazepine can usually safely be discontinued.

I can think of several patients in my early years of medicine who were seen for hyperventilation, paraesthesias and fear. I would hand them a paper bag, tell them to breathe into it and assure them that everything was fine. I would then send them on their way without further medications, therapy or follow-up. So this relates to the title, "What's in a Name?". In this case the correct treatment of a disabling disorder.

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CME Conferences

CME Conferences being held on a regular basis at various health care facilities throughout the state of South Dakota.
(1 hour AMA Category 1 credit available unless otherwise specified)

CME CONFERENCES

DECMEBER 1994

- December 15 **Geriatric Forum** - 7:30 am, West Auditorium, Rapid City Regional Hospital, Info: Med Staff Office - 341-8107.
- December 15 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 15 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 15 **Neuroscience Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Amy Barnett - 333-3206.
- December 15 **Cath Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Alice Glirbas - 333-2766.
- December 15 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 16 **Psychiatry Grand Rounds** - 12-1:30 pm, VA Regional Bldg - Training Room, Sioux Falls, Info: Dougals J. Soule, PhD - 339-6785.
- December 20 **Endorama (Endocrinology Conference)** - 7:30 am, Sioux Valley Hospital, Info: Dr. J. Michael McMillin - 334-8387.
- December 21 **Clinical Pathology Conference**, - 7:30 am, Sioux Valley Hospital Auditorium, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 22 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 22 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.
- December 22 **Trauma Grand Rounds** - 12:00 noon, Meeting Room A, Sioux Valley Hospital, Info: Monica Huber - 333-7388.
- December 22 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 28 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: Don Kreger, MD, Topic: Infertility & Advanced Reproductive Techniques, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- December 28 **Geriatrics Grand Rounds** - 12:00 noon, Sioux Valley Hospital Meeting Room A, Info: Dr. Edward Zawada - 339-6790.
- December 29 **Cancer Conference** - 12:00 noon, West Auditorium, Rapid City Regional Hospital, Info: Cancer Registry - 341-8705.
- December 29 **Cancer Conference** - 11:00 a.m., St Luke's Midland Regional Medical Center, Aberdeen, Info: Dr. Roy Burt, 662-5194.
- December 29 **Tumor Conference, Dakota Midwest Cancer Institute** - 12:00 noon McKennan Campus, Info: Norma Wise, 339-8568.

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- January 4 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: David L. Smith, MD, Topic: Respiratory Problems for the Practicing Physician, Info: Dr. Brian T. Hurley - 357-1366.
- January 4 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: Ramon M. Fuscaro, MD, PhD; Topic: Common Dermatoses (Adult); Info: Connie Kleinsasser, USDSM - 357-1480.
- January 5 **Biomedical Ethics** - 7:30 am, East Auditorium A, Rapid City Regional Hospital, Info: Medical Staff Office - 341-8705.
- January 6 **Morbidity/Mortality Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- January 11 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, speaker: Hari D. Kannan, MD, Topic: Geriatric Pharmacology, Info: David Rossing, MD 331-3490.
- January 11 **CPR Certification/Recertification** - 7-10:00 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- January 11 **Internal Medicine Grand Rounds** - 7:30 am, McKennan Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366.
- January 12 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- January 13 **Morbidity/Mortality Conference** - 8:00 am, Fort Meade VA, Info: Surgical Section, 347-7145.
- January 13 **Pathology Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- January 18 **CPC Wednesday Noon Conference** - 12:00 noon, 4th Floor Conference Rooms, speaker: Kirke H. Wheeler, MD, Topic: Appendicitis, Info: David Rossing, MD 331-3490.
- January 18 **Clinical Pathology Conference** - 7:30 am, Sioux Valley Hospital Auditorium, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366 (Barbara).
- January 18 **Topics in Clinical Medicine - Audio Teleconference Series**; - 12:15 & 1:30 pm CT/CDT, 11:15 am & 12:30 pm MT/MDT; Speaker: Ramon M. Fuscaro, MD, PhD; Topic: Common Dermatoses (Pediatric); Info: Connie Kleinsasser, USDSM - 357-1480.

- January 25 **Internal Medicine Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Speaker: to be announced, Topic: to be announced, Info: Dr. Brian T. Hurley - 357-1366.
- January 26 **Pediatric Grand Rounds** - 7:30 am, Sioux Valley Hospital Auditorium, Info: Dr. Larry Wellman - 333-7178 (Joan).
- January 27 **Tumor Conference** - 12:30 pm, Brookings Hospital, Conference Rooms A & B, Brookview Manor, Info: Phyllis Sander, RN, 692-6351.
- January 31 **ACLS Provider Course** - McKennan Hospital, Sioux Falls, SD, Info: Kathy Miles, 339-8096.

MISCELLANEOUS

JANUARY 1995

- January 12-13 **Geriatric Update in Clinical Practice**, Rushmore Plaza Holiday Inn, Rapid City, SD. Contact: Barb Wagley, Phone: 357-1340.

FEBRUARY 1995

- February 1-8 **Update in Clinical Neurophysiology**, Mayo Clinic, Rochester, MN. Contact: Postgraduate Courses, Section of CME, Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.
- February 4-8 **Selected Topics in Internal Medicine**, Silverado Resort, Napa Valley, CA. Contact: Postgraduate Courses, Section of CME, Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.
- February 9-11 **Mayo Clinic State-of-the-Art Symposium: Arrhythmia Management**, Silverado Resort, Napa Valley, CA. Contact: Postgraduate Courses, Section of CME, Mayo Foundation, Rochester, MN 55905. Phone: (800) 323-2688.
- February 11 **Management of Colon and Rectal Diseases by the Primary Care Physician**, Marriott Hotel, Omaha, NE. Contact: Sally C. O'Neill, Ph.D, Assoc Dean, Creighton Univ CME Div, 601 N 30th St, Ste #2130, Omaha, NE 68131. Phone: (800) 548-2633.
- February 15-19 **Conference on Pain Management for Physicians**, White Fish, MT. Contact: Sue Heinze, MeritCare, Fargo, ND. Phone: (701) 234-5737

Black Hills Neurology Advances in Clinical Child Neurology

23-25 February 1995

**Holiday Inn of the
Northern Black Hills
Spearfish, SD**

**Contact:
K. Alan Kelts, MD, Ph.D
2929 5th Street, Suite 240
Rapid City, SD 57701
(605) 341-3770**

Guest Speakers: Paul G. Moe, MD, William M. Deering, MD, Richard Ferber, MD, Lawrence Wellman, MD, Russell Snyder, MD

Geriatric Update In Clinical Practice

January 12-13, 1995

**Rushmore Plaza Holiday Inn
Rapid City, SD**

*Sponsored by:
Rapid City Regional Hospital
and
Department of Internal Medicine
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*Program Includes:
Geriatric Assessment Skills
Gait & Balance Disorders
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Workshops & Meet the Professor Sessions*

**Contact:
Barb Wagley, Registrar
USD School of Medicine
Phone: (605) 357-1340**

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